FCC PART 15, SUBPART B and C
TEST REPORT

for

WIRELESS REMOTE TRANSCEIVER

MODEL: XT2004R

Prepared for

E R A D
P.O. BOX 121715
FORTH WORTH, TEXAS 76121

Prepared by: _____

KYLE FUJIMOTO

Approved by: _____

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DATE: JUNE 14, 2005

	REPORT BODY	APPENDICES					TOTAL
		A	***B***	***C***	***D***	***E***	
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GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced without the written permission of Compatible Electronics, unless done so in full.

This report must not be used to claim product endorsement by NVLAP, NIST or any other agency of the U.S. Government.

Device Tested:	Wireless Remote Transceiver Model: XT2004R S/N: N/A
Product Description:	See Expository Statement.
Modifications:	The EUT was not modified during the testing.
Manufacturer:	E R A D P.O. Box 121715 Forth Worth, Texas 76121
Test Dates:	June 3 and 10, 2005
Test Specifications:	EMI requirements CFR Title 47, Part 15 Subpart B; and Subpart C, Sections 15.205, 15.209, and 15.231
Test Procedure:	ANSI C63.4: 2003
Test Deviations:	The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 150 kHz - 30 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and Subpart C, section 15.207.
2	Radiated RF Emissions, 10 kHz - 4400 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.231.
3	-20 dB Bandwidth of the Fundamental	Complies with the limits of Subpart C, sections 15.231 [c].

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Wireless Remote Transceiver Model: XT2004R. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4: 2003. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.231.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The EMI tests described herein were performed at the test facility of Compatible Electronics, 114 Olinda Drive, Brea, California 92823.

2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

2.3 Cognizant Personnel

E R A D

Greg Baack Owner

Compatible Electronics, Inc.

Kyle Fujimoto Test Engineer
Benigno Chavez Test Engineer
Michael Christensen Lab Manager

2.4 Date Test Sample was Received

The test sample was received prior to its qualification testing on June 2, 2005.

2.5 Disposition of the Test Sample

The test sample has not been returned to E R A D as of the date of this test report.

2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
HP	Hewlett Packard
ITE	Information Technology Equipment
CML	Corrected Meter Limit
LISN	Line Impedance Stabilization Network
PCB	Printed Circuit Board
TX	Transmit
RX	Receive

3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this EMI Test Report.

SPEC	TITLE
CFR Title 47, Part 15	FCC Rules – Radio frequency devices (including digital devices)
ANSI C63.4: 2003	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - EMI

Setup and operation of the equipment under test.

Specifics of the EUT and Peripherals Tested

For Intentional Radiator and Receive Mode: The Wireless Remote Transceiver Model: XT2004R (EUT) was tested as a stand alone unit and tested in three orthogonal axis. The EUT was continuously transmitting and was also put into a continuous receive mode.

For Com Port Mode: The Wireless Remote Transceiver Model: XT2004R (EUT) was connected to a computer via its USB port (through a USB to Serial Adapter). The computer was also connected to a modem, printer, monitor, keyboard, and mouse via its serial, parallel, video keyboard, and mouse ports, respectively. The computer was continuously downloading files from the EUT.

Note: the EUT does not transmit nor receive when put in the Com Port mode. This mode is to only program the EUT with different programs and/or files.

The antenna is hard wired to the EUT's PCB.

After the EUT is activated by pressing the button, the transmission will cease operation once the button is released.

The final radiated data was taken in both modes described above. The final conducted data was taken in the Com Port mode described above. Please see Appendix E for the data sheets.

4.1.1 Cable Construction and Termination

Cable 1 **(for Com Port mode only)**
This is a 1.5 meter braid and foil shielded cable connecting the computer to the modem. The cable has a D-9 pin metallic connector at the computer end and a D-25 pin metallic connector at the modem end. The cable was bundled to a length of 95 centimeters. The shield of the cable was grounded to the chassis via the connectors.

.**Cable 2** **(for Com Port mode only)**
This is a 1.5 meter braid and foil shielded cable connecting the computer to the printer. The cable has a D-25 pin metallic connector at the computer end and a Centronics metallic type connector at the printer end. The shield of the cable was grounded to the chassis via the connectors.

Cable 3 **(for Com Port mode only)**
This is a 40 centimeter braid shielded cable connecting the computer to the USB to serial adapter. The cable has a USB connector at the computer end and a D-9 pin metallic connector at the USB to serial adapter end. The shield of the cable was grounded to the chassis via the connectors.

Cable 4 **(for Com Port mode only)**
This is a 2.5 meter braid shielded cable connecting the EUT to the USB to serial adapter. The cable has a mini USB connector at the EUT end and a D-9 pin metallic connector at the USB to serial adapter end. The cable was bundled to a length of 90 centimeters. The shield of the cable was grounded to the chassis via the connectors.

Cable 5 **(for Com Port mode only)**
This is a 1.5 meter braid and foil shielded cable connecting the computer to the monitor. The cable has a high density D-15 pin metallic connector at the computer end and is hard wired into the monitor. The shield of the cable was grounded to the chassis via the connector. The cable has a molded ferrite at the computer end.

Cable 6 **(for Com Port mode only)**
This is a 2 meter foil shielded cable connecting the computer to the keyboard. The cable has a metallic 6 pin mini DIN connector at the computer end and is hard wired into the keyboard. The shield of the cable was grounded to the chassis via the connector.

Cable 7 **(for Com Port mode only)**
This is a 1.8 meter foil shielded cable connecting the computer to the mouse The cable has a metallic 6 pin mini DIN connector at the computer end and is hard wired into the mouse. The shield of the cable was grounded to the chassis via the connector.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

Intentional Radiator and Receive Mode

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
WIRELESS REMOTE TRANSCEIVER (EUT)	E R A D	P/N: XT2004R	N/A	**S9FXT2004R**

Com Port Mode

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
WIRELESS REMOTE TRANSCEIVER (EUT)	E R A D	XT2004R	N/A	**S9FXT2004R**
USB TO SERIAL ADAPTER	iCONCEPTS	N/A	N/A	**N/A**
COMPUTER	DELL	DHM	JJ19M41	**DoC**
MONITOR	HEWLETT PACKARD	D7438A	DT91401489	**DoC**
KEYBOARD	DELL	RT7D20	CN-04N454-37172-419-4862	**AQ6-7D20**
MOUSE	DELL	M-SAW34	HCD35312230	**DZL211029**
PRINTER	CITIZEN	LSP-10	1130060-73	**DLK66TLSP-10**
MODEM	HAYES	231AA	A05631003823	**BFJ9D9231AA**

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
Radiate Emissions Data Capture Program	Compatible Electronics	2.0	N/A	N/A	N/A
Emissions Program	Compatible Electronics	2.3 (SR19)	N/A	N/A	N/A
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08784	June 16, 2004	June 16, 2005
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	3701A22279	June 16, 2004	June 16, 2005
Quasi-Peak Adapter	Hewlett Packard	85650A	2430A00424	June 16, 2004	June 16, 2005
Preamplifier	Com Power	PA-103	1582	February 3, 2005	Feb. 3, 2006
Biconical Antenna	Com Power	AB-900	15250	March 11, 2005	Mar. 11, 2006
Log Periodic Antenna	Com Power	AL-100	16202	February 17, 2005	Feb. 17, 2006
Computer	Hewlett Packard	D5251A 888	US74458128	N/A	N/A
Monitor	Hewlett Packard	D5258A	DK74889705	N/A	N/A
Loop Antenna	Com-Power	AL-130	17089	September 3, 2004	Sept. 3, 2005
Horn Antenna	Antenna Research	DRG-118/A	1053	January 16, 2004	Jan. 16, 2006
Microwave Preamplifier	Com-Power	PA-122	25195	February 25, 2005	Feb. 25, 2006
EMI Receiver	Rohde & Schwarz	ESIB40	100172	October 28, 2004	Oct. 28, 2005

5.3 EMI Test Equipment Continued

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. DUE DATE
Antenna Mast	Com-Power	AM-100	N/A	N/A	N/A
Turntable	Com-Power	TT-100	N/A	N/A	N/A
Preamplifier	Com-Power	PA-102	1017	January 5, 2005	Jan. 5, 2006
Biconical Antenna	Com Power	AB-100	1548	September 29, 2004	Sept. 29, 2005
Log Periodic Antenna	Com Power	AL-100	16060	September 27, 2004	Sept. 27, 2005
LISN	Com Power	LI-215	12090	October 26, 2004	Oct. 26, 2005
LISN	Com Power	LI-215	12076	October 26, 2004	Oct. 26, 2005
Transient Limiter	Seaward	252A910	K39-0220	September 20, 2004	Sept. 20, 2005
Antenna Mast	EMCO	2090	9609-1176	N/A	N/A

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1 of this report for EMI test location.

6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT was not grounded.

7. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

7.1 RF Emissions

7.1.1 Conducted Emissions Test

The spectrum analyzer was used as a measuring meter. The data was collected with the spectrum analyzer in the peak detect mode with the "Max Hold" feature activated. The quasi-peak was used only where indicated in the data sheets. A transient limiter was used for the protection of the spectrum analyzer input stage, and the offset was adjusted accordingly to read the actual data measured. The LISN output was measured using the spectrum analyzer. The output of the second LISN was terminated by a 50 ohm termination. The effective measurement bandwidth used for this test was 9 kHz.

Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The EUT was powered through the LISN, which was bonded to the ground plane. The LISN power was filtered and the filter was bonded to the ground plane. The EUT was set up with the minimum distances from any conductive surfaces as specified in ANSI C63.4: 2003. The excess power cord was wrapped in a figure eight pattern to form a bundle not exceeding 0.4 meters in length.

The conducted emissions from the EUT were maximized for operating mode as well as cable placement. The final data was collected under program control by the Compatible Electronics conducted emissions software in several overlapping sweeps by running the spectrum analyzer at a minimum scan rate of 10 seconds per octave. The final qualification data is located in Appendix E.

Test Results:

The EUT complies with the **Class B** limits of CFR Title 47, Part 15 Subpart B for conducted emissions; and the limits of CFR Title 47, Part 15, Subpart C, Section 15.207.

7.1.2 Radiated Emissions (Spurious and Harmonics) Test

The spectrum analyzer and EMI Receiver were used as a measuring meter along with the quasi-peak adapter. Amplifiers were used to increase the sensitivity of the instrument. The Com Power Preamplifiers Model: PA-102 and PA-103 were used for frequencies from 30 MHz to 1 GHz, and the Com-Power Microwave Preamplifier Model: PA-122 was used for frequencies above 1 GHz. The spectrum analyzer was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the spectrum analyzer and EMI Receiver record the highest measured reading over all the sweeps.

The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
9 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 4.40 GHz	1 MHz	Horn Antenna

The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.4: 2003. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The gunsight method was used when measuring with the horn antenna in order to ensure accurate results. The loop antenna was also rotated in the horizontal and vertical axis in order to ensure accurate results.

7.1.3 Radiated Emissions (Spurious and Harmonics) Test (continued)

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a 3 meter test distance to obtain final test data. The final qualification data sheets are located in Appendix E.

Test Results:

The EUT complies with the limits of CFR Title 47, Part 15, Subpart B; and Subpart C, section 15.205, 15.209 and 15.231 for radiated emissions.

7.2 Bandwidth of the Fundamental

The -20 dB bandwidth was checked to see that it was within 0.25% of the fundamental frequency for the EUT. Data sheets of the –20 dB bandwidth are located in Appendix E.

Test Results:

The EUT complies with the limits of CFR Title 47, Part 15, Subpart C, section 15.231 [c].

8. CONCLUSIONS

The Wireless Remote Transceiver Model: XT2004R meets all of the Class B specification limits defined in CFR Title 47, Part 15, Subpart B; and Subpart C, sections 15.205, 15.209, and 15.231.

APPENDIX A

LABORATORY RECOGNITIONS

LABORATORY RECOGNITIONS

Compatible Electronics has the following agency accreditations:

National Voluntary Laboratory Accreditation Program - Lab Code: 200528-0

Voluntary Control Council for Interference - Registration Numbers: R-983, C-1026, R-984 and C-1027

Bureau of Standards and Metrology Inspection - Reference Number: SL2-IN-E-1031

Conformity Assessment Body for the EMC Directive Under the US/EU MRA Appointed by NIST

Compatible Electronics is recognized or on file with the following agencies:

Federal Communications Commission

Industry Canada

Radio-Frequency Technologies (Competent Body)

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC 15.231 or FCC Class B specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

No modifications were made to the EUT during the testing.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST

Wireless Remote Transceiver
Model: XT2004R
S/N: N/A

There were no additional models covered under this report.

APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

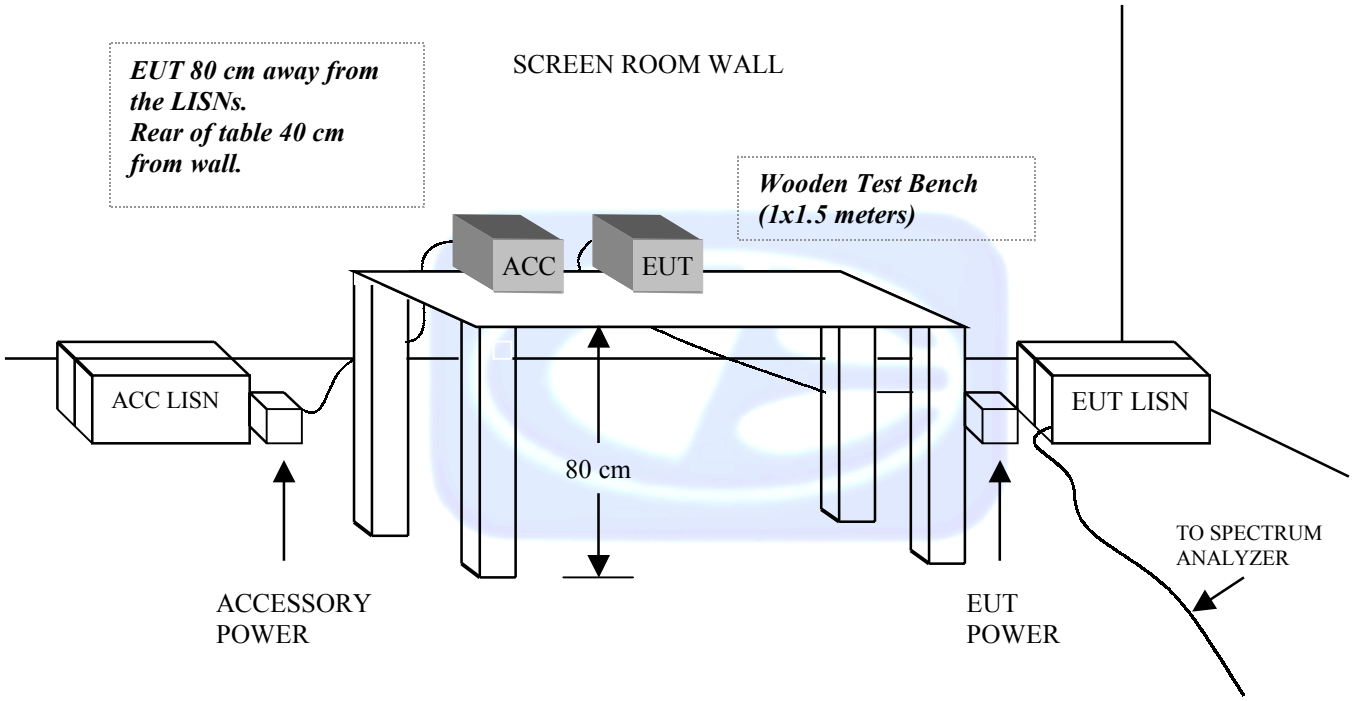
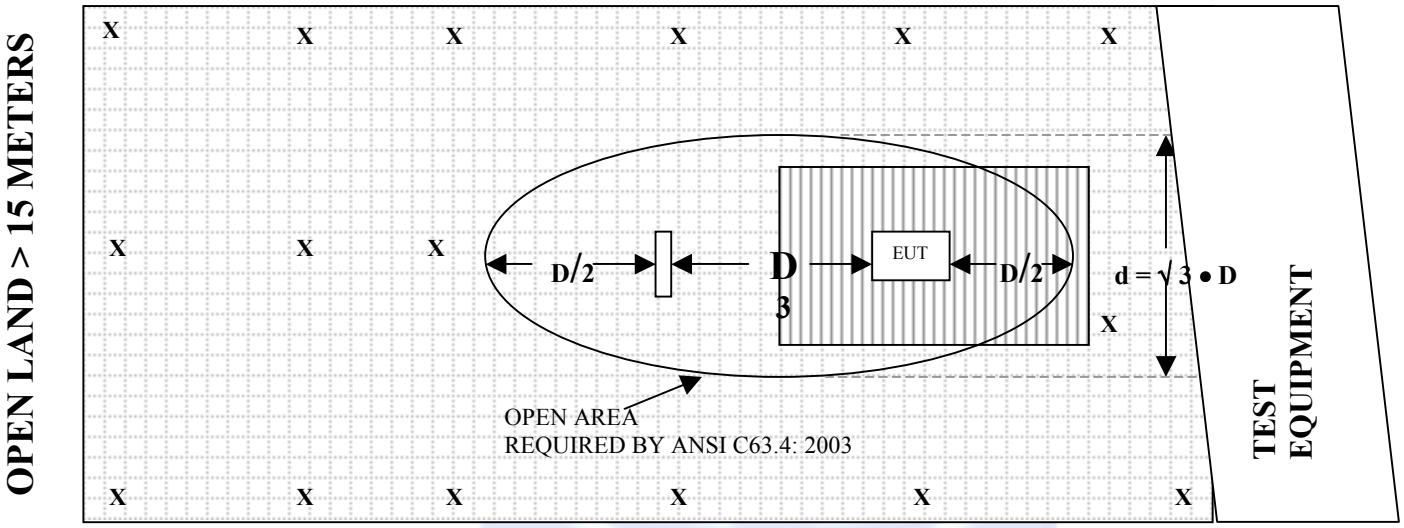


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED TEST SITE

OPEN LAND > 15 METERS



OPEN LAND > 15 METERS

X = GROUND RODS	= GROUND SCREEN
D = TEST DISTANCE (meters)	= WOOD COVER

COM-POWER AB-900

BICONICAL ANTENNA

S/N: 15250

CALIBRATION DATE: MARCH 11, 2005

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	10.90	120	13.10
35	10.90	125	12.40
40	10.90	140	11.90
45	10.30	150	11.80
50	11.40	160	13.30
60	10.40	175	15.40
70	7.40	180	14.60
80	6.20	200	15.70
90	8.20	250	16.50
100	10.10	300	19.20

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16202

CALIBRATION DATE: FEBRURY 17, 2005

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	12.70	700	19.20
400	13.70	800	19.40
500	16.00	900	21.50
600	16.50	1000	23.50

COM-POWER PA-103

PREAMPLIFIER

S/N: 1582

CALIBRATION DATE: FEBRUARY 3, 2005

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	33.2	300	33.0
40	33.0	350	32.8
50	33.1	400	32.8
60	33.0	450	32.8
70	33.2	500	32.5
80	33.2	550	32.5
90	33.1	600	32.4
100	33.2	650	32.4
125	33.1	700	32.3
150	33.0	750	32.2
175	33.0	800	32.2
200	33.0	850	32.4
225	33.0	900	31.8
250	33.0	950	32.3
275	32.9	1000	32.0

COM-POWER PA-122

MICROWAVE PREAMPLIFIER

S/N: 25195

CALIBRATION DATE: FEBRUARY 25, 2005

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	31.45	6.0	31.35
1.1	31.34	6.5	31.10
1.2	31.29	7.0	30.54
1.3	31.28	7.5	29.72
1.4	31.25	8.0	29.22
1.5	31.21	8.5	28.75
1.6	31.14	9.0	28.67
1.7	31.07	9.5	29.14
1.8	31.12	10.0	30.12
1.9	31.04	11.0	29.30
2.0	31.20	12.0	29.86
2.5	31.56	13.0	30.57
3.0	32.17	14.0	29.90
3.5	32.56	15.0	30.14
4.0	32.51	16.0	31.13
4.5	32.52	17.0	29.97
5.0	32.33	18.0	28.77
5.5	31.60		

COM-POWER AB-100

BICONICAL ANTENNA

S/N: 1548

CALIBRATION DATE: SEPTEMBER 29, 2004

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	13.87	140	12.02
35	12.48	150	11.70
40	12.66	160	13.55
45	12.49	175	14.36
50	12.47	180	14.67
60	10.30	200	14.95
70	8.26	250	16.86
80	7.94	275	18.16
90	8.36	287.5	23.23
100	8.73	295	19.10
120	11.06	300	19.70
125	10.64		

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 16060

CALIBRATION DATE: SEPTEMBER 27, 2004

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	12.30	700	19.20
400	14.10	800	21.30
500	15.20	900	21.90
600	15.90	1000	25.20

COM-POWER PA-102

PREAMPLIFIER

S/N: 1017

CALIBRATION DATE: JANUARY 5, 2005

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	38.4	300	38.5
40	38.3	350	38.5
50	38.2	400	38.3
60	38.4	450	38.0
70	38.4	500	38.0
80	38.3	550	38.1
90	38.3	600	38.2
100	37.7	650	37.8
125	38.4	700	37.9
150	38.6	750	37.5
175	38.4	800	37.2
200	38.5	850	37.6
225	38.	900	36.9
250	38.6	950	37.0
275	38.4	1000	36.3

ANTENNA RESEARCH DRG-118/A

HORN ANTENNA

S/N: 1053

CALIBRATION DATE: JANUARY 16, 2004

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	24.4	10.0	38.7
1.5	25.2	10.5	39.0
2.0	28.2	11.0	38.9
2.5	28.5	11.5	41.3
3.0	30.1	12.0	40.5
3.5	31.0	12.5	40.0
4.0	31.2	13.0	40.2
4.5	31.9	13.5	40.5
5.0	33.2	14.0	41.6
5.5	33.7	14.5	44.8
6.0	34.3	15.0	41.4
6.5	35.0	15.5	39.2
7.0	36.7	16.0	39.4
7.5	37.3	16.5	40.9
8.0	37.1	17.0	42.6
8.5	37.3	17.5	45.1
9.0	37.7	18.0	41.7
9.5	38.6		

COM-POWER AL-130

LOOP ANTENNA

S/N: 17089

CALIBRATION DATE: SEPTEMBER 3, 2004

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-40.8	10.7
0.01	-40.9	10.6
0.02	-41.8	9.7
0.05	-42.0	9.5
0.07	-41.5	10.0
0.1	-41.7	9.8
0.2	-44.1	7.4
0.3	-41.6	9.9
0.5	-41.5	10.0
0.7	-41.4	10.1
1	-41.0	10.5
2	-40.6	10.9
3	-40.8	10.7
4	-41.0	10.5
5	-40.4	11.1
10	-40.7	10.8
15	-41.6	9.9
20	-41.3	10.2
25	-43.0	8.5
30	-42.6	8.9

FRONT VIEW

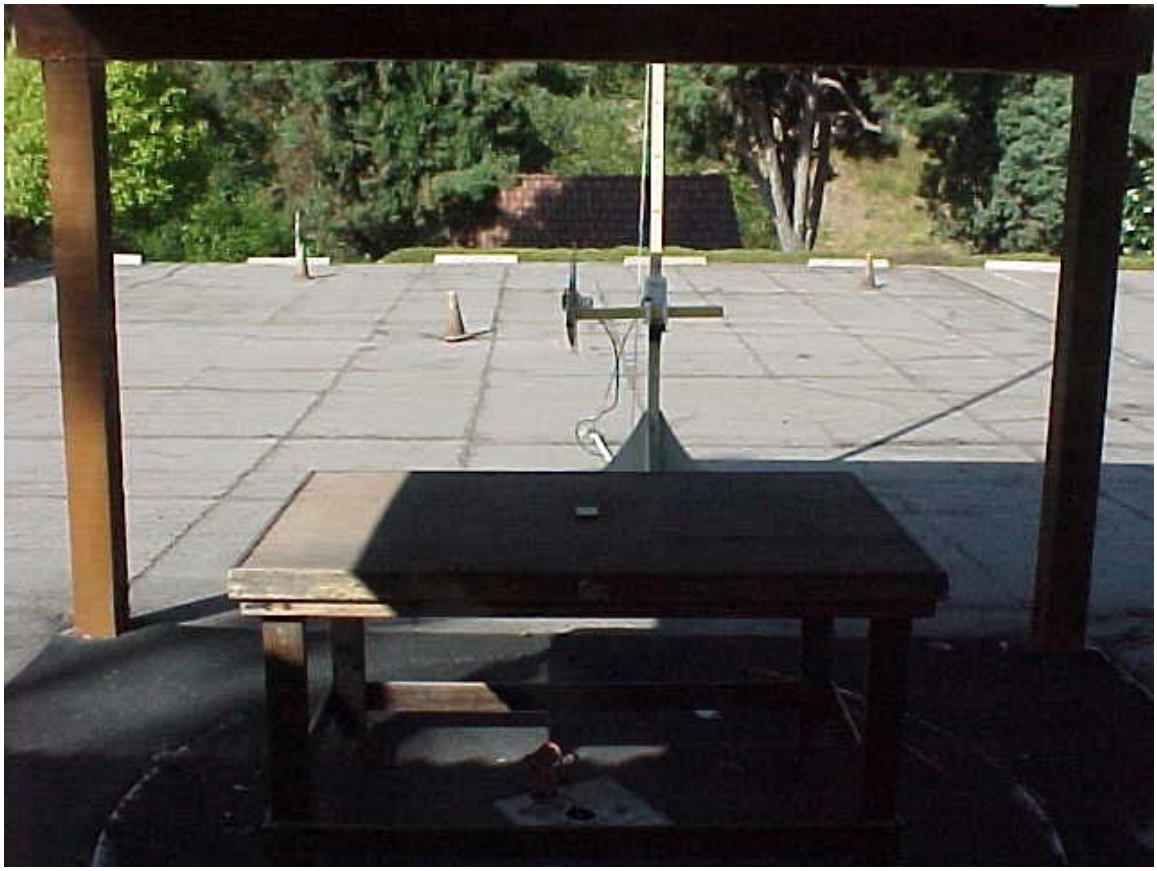
E R A D
WIRELESS REMOTE TRANSCEIVER
MODEL: XT2004R
FCC SUBPART B AND C – RADIATED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

E R A D
WIRELESS REMOTE TRANSCEIVER
MODEL: XT2004R
FCC SUBPART B AND C – RADIATED EMISSIONS

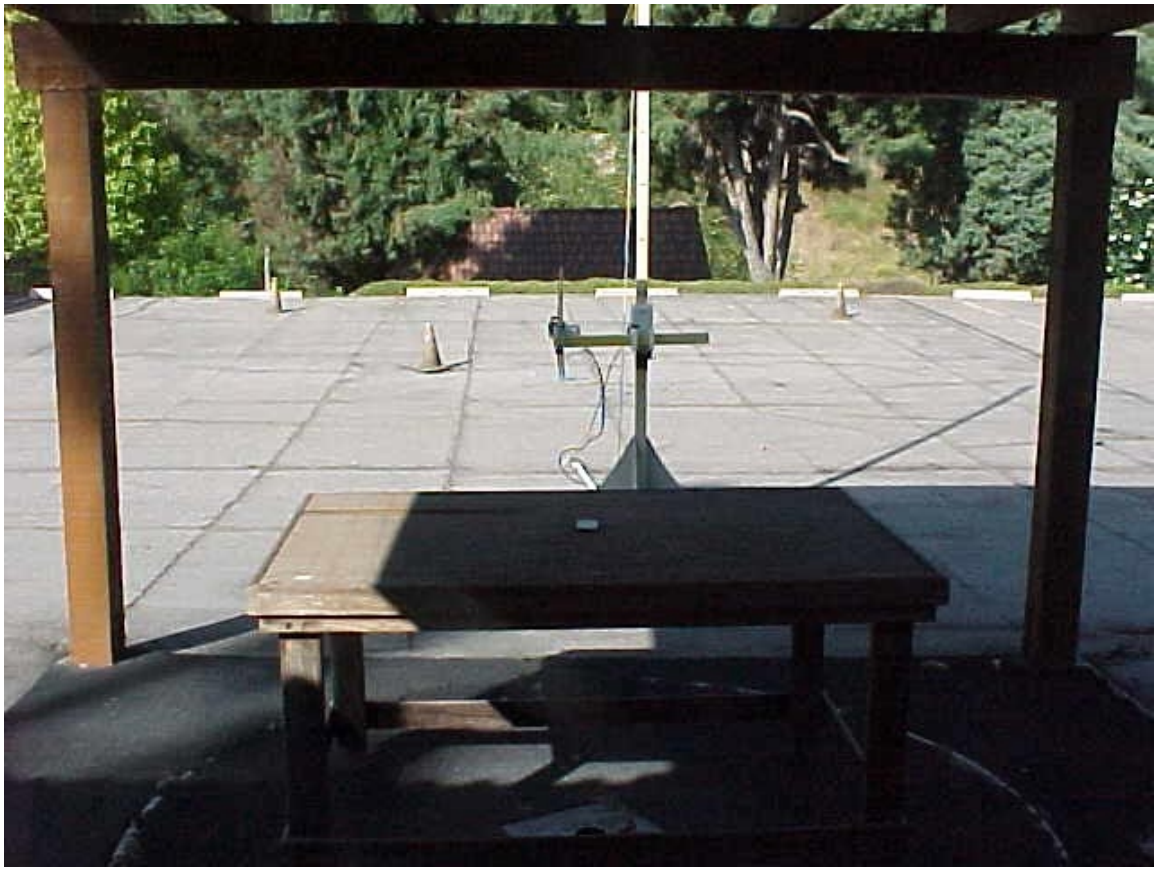
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

E R A D
WIRELESS REMOTE TRANSCEIVER
MODEL: XT2004R
FCC SUBPART B AND C – RADIATED EMISSIONS

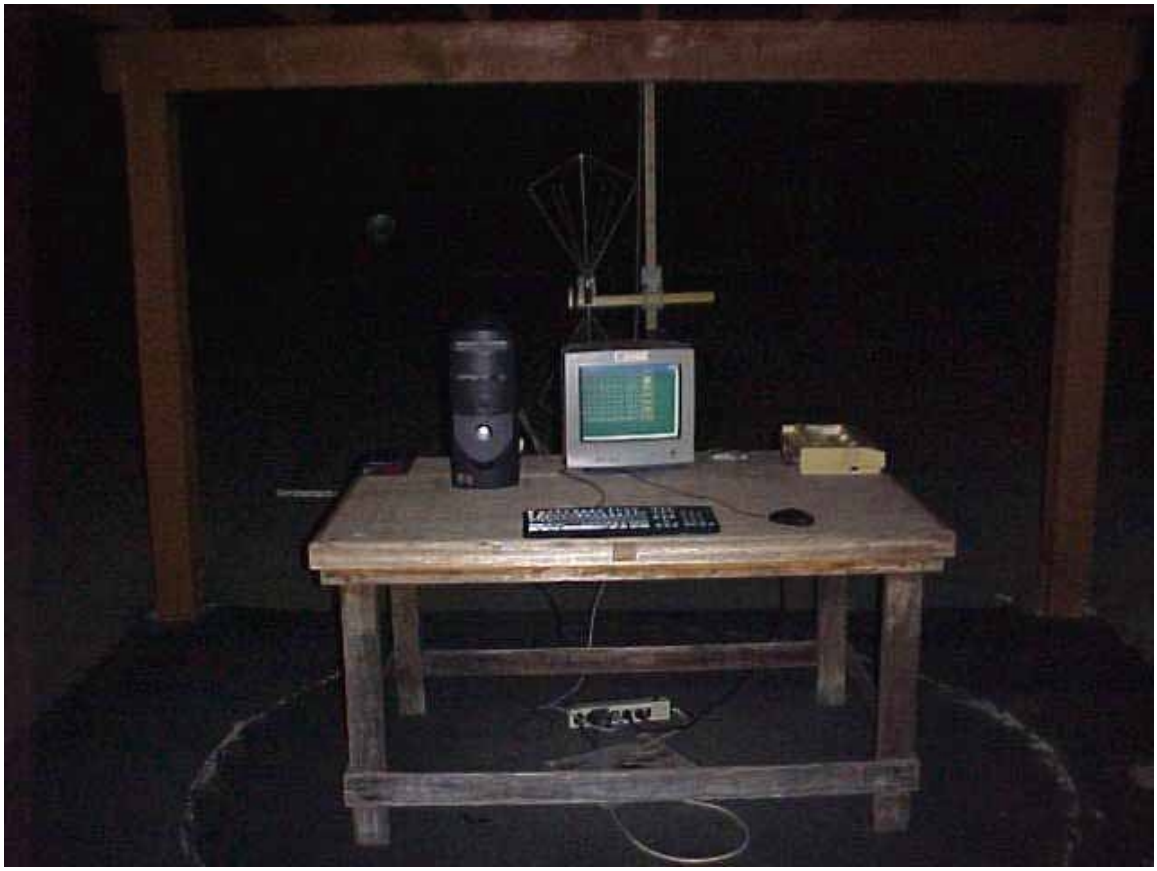
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

E R A D
WIRELESS REMOTE TRANSCEIVER
MODEL: XT2004R
FCC SUBPART B AND C – RADIATED EMISSIONS

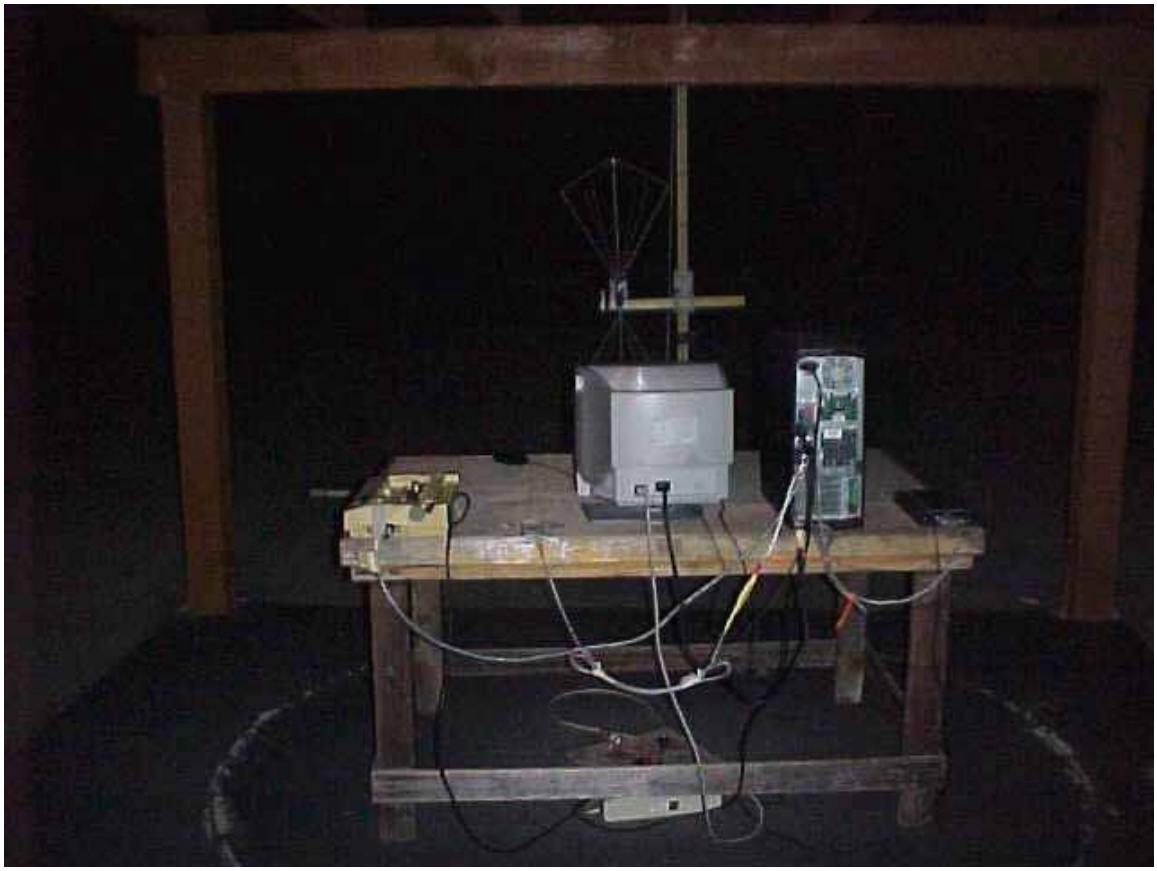
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

E R A D
WIRELESS REMOTE TRANSCEIVER
MODEL: XT2004R
FCC SUBPART B – RADIATED EMISSIONS

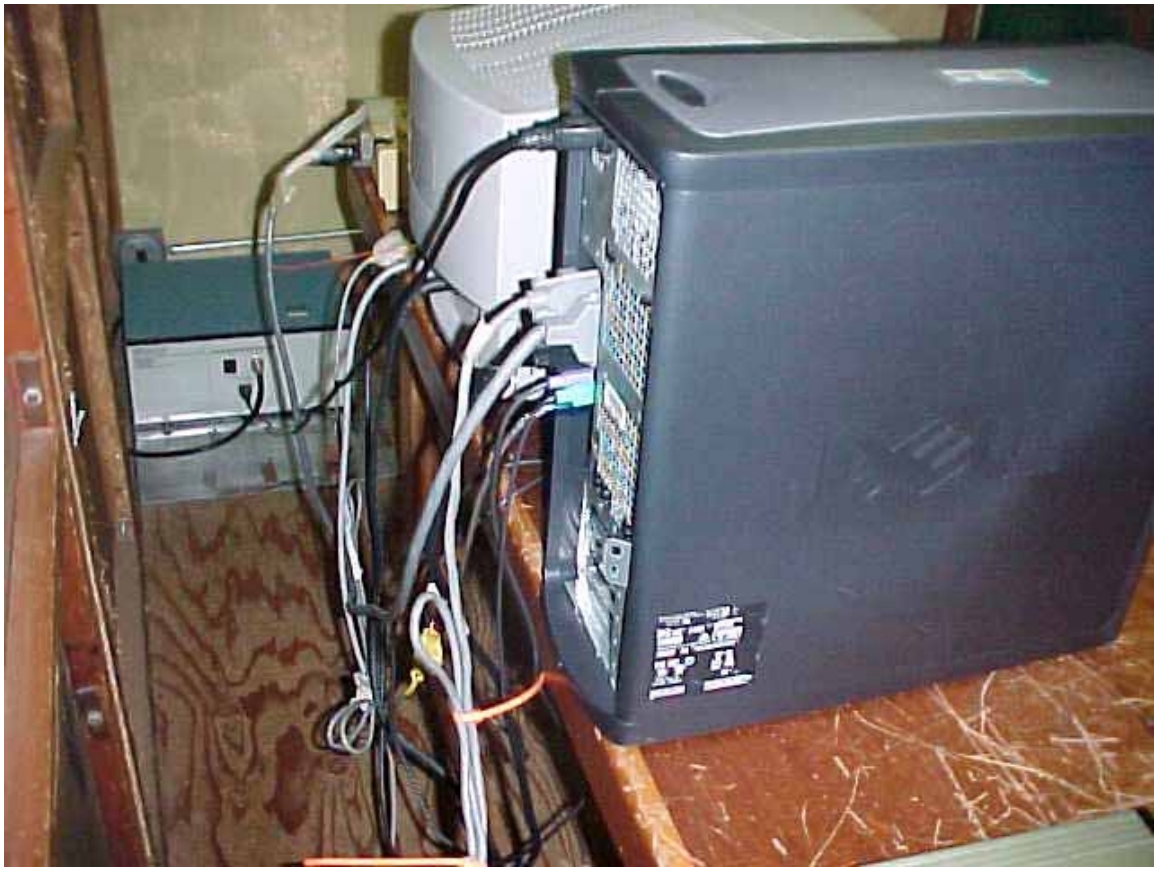
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

E R A D
WIRELESS REMOTE TRANSCEIVER
MODEL: XT2004R
FCC SUBPART B – RADIATED EMISSIONS

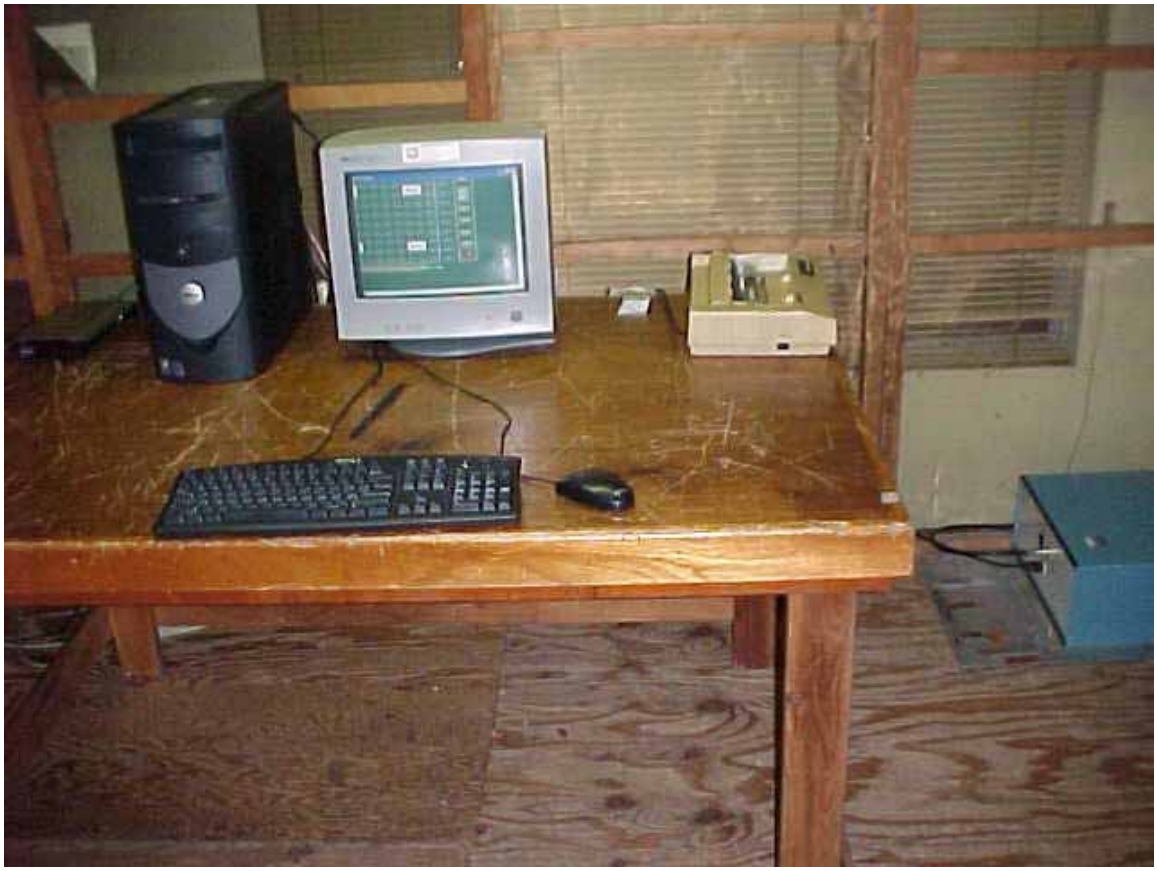
PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



FRONT VIEW

E R A D
WIRELESS REMOTE TRANSCEIVER
MODEL: XT2004R
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

E R A D
WIRELESS REMOTE TRANSCEIVER
MODEL: XT2004R
FCC SUBPART B AND C – CONDUCTED EMISSIONS

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

APPENDIX E

DATA SHEETS

RADIATED EMISSIONS (FCC SECTION 15.205 AND 15.231)

COMPANY	**E R A D**	**DATE**	**6/3/05**	
EUT	**Remote Wireless Transceiver**	**DUTY CYCLE**	**10**	**%**
MODEL	**XT2004R**	**PEAK TO AVG**	**-20**	**dB**
S/N	**N/A**	**TEST DIST.**	**3**	**Meters**
TEST ENGINEER	**James Ross**	**LAB**	**A**	

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
418.0000	79.8	59.8 A	H	1.0	90	X	LOW	14.1	5.5	0.0	0.0		**79.4**	**-0.8**	**80.2**	
418.0000	61.8	41.8 A	H	1.0	45	Y	LOW	14.1	5.5	0.0	0.0		**61.4**	**-18.8**	**80.2**	
418.0000	73.7	53.7 A	H	1.0	0	Z	LOW	14.1	5.5	0.0	0.0		**73.3**	**-6.9**	**80.2**	
418.0000	65.3	45.3 A	V	3.0	180	X	LOW	14.1	5.5	0.0	0.0		**64.9**	**-15.3**	**80.2**	
418.0000	75.4	55.4 A	V	1.0	225	Y	LOW	14.1	5.5	0.0	0.0		**75.0**	**-5.2**	**80.2**	
418.0000	69.5	49.5 A	V	1.8	315	Z	LOW	14.1	5.5	0.0	0.0		**69.1**	**-11.1**	**80.2**	

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

** DELTA = SPEC LIMIT - CORRECTED READING

RADIATED EMISSIONS (FCC SECTION 15.205 AND 15.231)

COMPANY	**E R A D**	**DATE**	**6/3/05**	
EUT	**Remote Wireless Transceiver**	**DUTY CYCLE**	**10**	**%**
MODEL	**XT2004R**	**PEAK TO AVG**	**-20**	**dB**
S/N	**N/A**	**TEST DIST.**	**3**	**Meters**
TEST ENGINEER	**James Ross**	**LAB**	**A**	

Frequency MHz	Peak Reading (dBuV)	Average (A) or Quasi-Peak (QP)	Antenna Polar. (V or H)	Antenna Height (meters)	EUT Azimuth (degrees)	EUT Axis (X,Y,Z)	EUT Tx Channel	Antenna Factor (dB)	Cable Loss (dB)	Amplifier Gain (dB)	Distance Factor (dB)	Mixer Factor (dB)	*Corrected Reading (dBuV/m)	Delta ** (dB)	Spec Limit (dBuV/m)	Comments
836.0000	70.5	50.5 A	H	1.0	90	X	LOW	20.2	6.6	32.3	0.0		**45.0**	**-15.2**	**60.2**	
836.0000	43.6	23.6 A	H	1.3	135	Y	LOW	20.2	6.6	32.3	0.0		**18.1**	**-42.1**	**60.2**	
836.0000	65.8	45.8 A	H	1.5	180	Z	LOW	20.2	6.6	32.3	0.0		**40.3**	**-19.9**	**60.2**	
836.0000	45.9	25.9 A	V	2.0	180	X	LOW	20.2	6.6	32.3	0.0		**20.4**	**-39.8**	**60.2**	
836.0000	68.7	48.7 A	V	1.0	45	Y	LOW	20.2	6.6	32.3	0.0		**43.2**	**-17.0**	**60.2**	
836.0000	49.2	29.2 A	V	1.5	45	Z	LOW	20.2	6.6	32.3	0.0		**23.7**	**-36.5**	**60.2**	

* CORRECTED READING = METER READING + ANTENNA FACTOR + CABLE LOSS - AMPLIFIER GAIN

** DELTA = SPEC LIMIT - CORRECTED READING

COMPATIBLE ELECTRONICS

Test Location : Compatible Electronics — Page : 1/1
Customer : ERAD — Date : 6/03/2005
Manufacturer : ERAD — Time : 18:21:29
Eut name : TRANSCEIVER — Lab : A and B
Model : XT2004R — Test Distance : 3.0 Meters
Serial # :
Specification : FCC B
Distance correction factor (20 * log(test/spec) : 0.00
Test Mode : VERTICAL AND HORIZONTAL POLARIZATIONS
TEST RANGE: 10 kHz TO 5 GHz - QUALIFICATION SCAN
Full Generic Name: Wireless Remote Transceiver
TESTED BY: BENIGNO CHAVEZ

Pol	Freq	Rdng	Cable loss	Ant factor	Amp gain	Cor'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dB	dBuV	dBuV/m	dB

No Spurious Emissions Detected in Transmit (Includes Harmonics) and Rx Mode

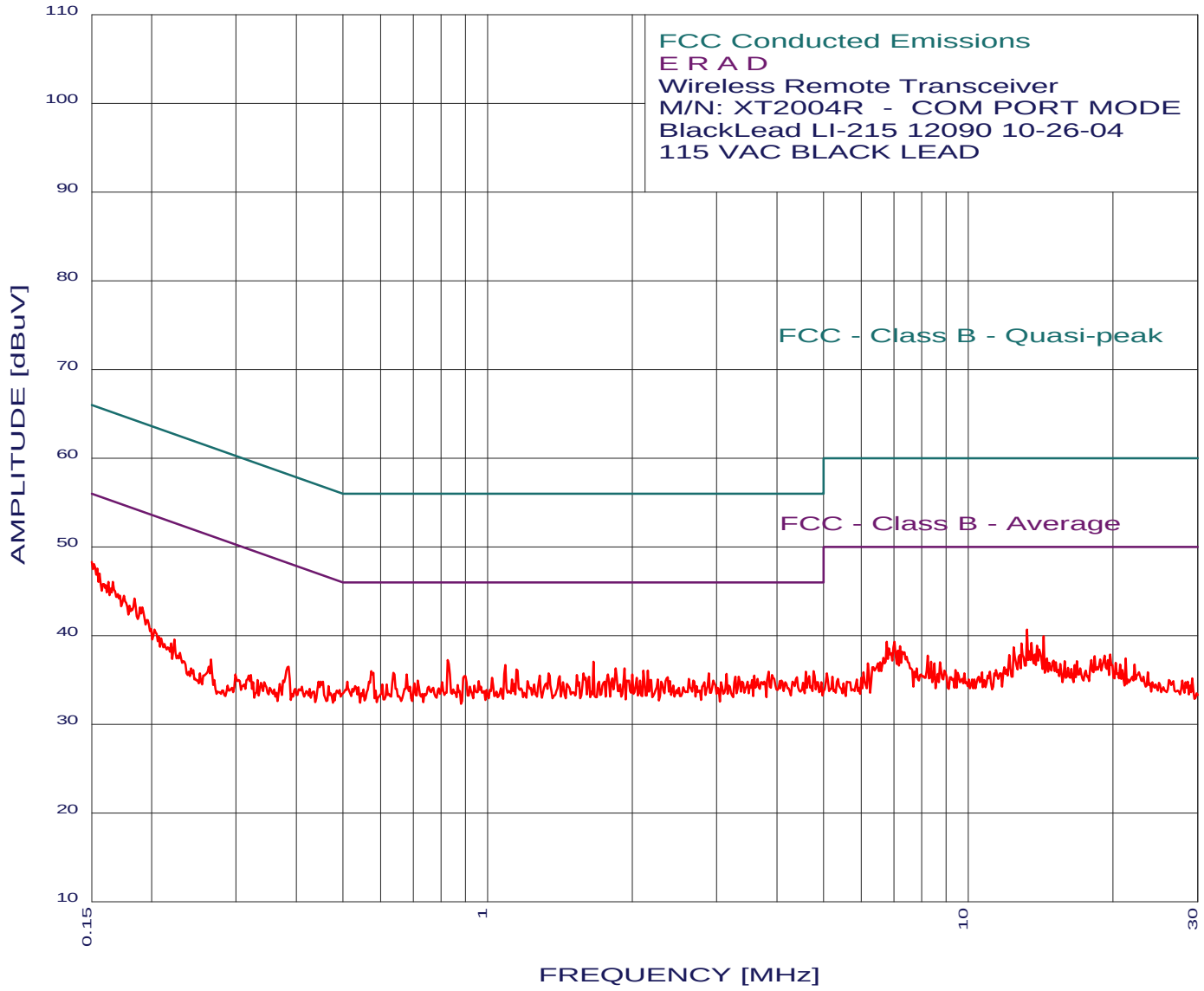
COMPATIBLE ELECTRONICS

Test Location : Compatible Electronics — Page : 1/1
Customer : ERAD — Date : 6/09/2005
Manufacturer : ERAD — Time : 21:24:03
Eut name : TRANSCEIVER — Lab : A
Model : XT2004R — Test Distance : 3.0 Meters
Serial # :
Specification : FCC B
Distance correction factor (20 * log(test/spec) : 0.00
Test Mode : Full Generic Name: Wireless Remote Transceiver
TEST RANGE: 30-1000 MHz - QUALIFICATION SCAN - Com Port Mode
VERTICAL AND HORIZONTAL POLARIZATIONS
TESTED BY: BENIGNO CHAVEZ

Pol	Freq	Rdng	Cable loss	Ant factor	Amp gain	Cor'd rdg = R	Limit = L	Delta R-L
	MHz	dBuV	dB	dB	dB	dBuV	dBuV/m	dB
1H	63.467	56.10	2.21	9.31	33.07	34.54	40.00	-5.46
2V	66.134	61.80	2.29	8.51	33.13	39.47	40.00	-0.53
3V	66.134Qp	57.77	2.29	8.51	33.13	35.44	40.00	-4.56
4H	66.564	63.30	2.30	8.38	33.13	40.85	40.00	0.85
5H	66.564Qp	59.97	2.30	8.38	33.13	37.52	40.00	-2.48
6V	66.716	58.60	2.31	8.34	33.14	36.10	40.00	-3.90
7V	69.144	62.90	2.38	7.64	33.18	39.73	40.00	-0.27
8V	69.144Qp	59.18	2.38	7.64	33.18	36.01	40.00	-3.99
9H	70.545	63.00	2.41	7.33	33.20	39.54	40.00	-0.46
10H	70.545Qp	59.83	2.41	7.33	33.20	36.37	40.00	-3.63
11H	72.508	62.10	2.43	7.08	33.20	38.41	40.00	-1.59
12H	72.508Qp	59.05	2.43	7.08	33.20	35.36	40.00	-4.64
13V	72.814	62.50	2.43	7.05	33.20	38.78	40.00	-1.22
14V	72.814Qp	58.70	2.43	7.05	33.20	34.98	40.00	-5.02
15H	78.018	54.60	2.48	6.43	33.20	30.31	40.00	-9.69
16V	78.817	55.80	2.49	6.33	33.20	31.42	40.00	-8.58
17V	86.868	53.60	2.57	7.60	33.13	30.64	40.00	-9.36
18H	109.666	49.70	2.87	11.62	33.16	31.02	43.50	-12.48
19H	169.194	48.30	3.28	14.61	33.00	33.19	43.50	-10.31
20H	173.306	48.30	3.29	15.17	33.00	33.77	43.50	-9.73
21H	178.878	48.70	3.35	14.78	33.00	33.83	43.50	-9.67
22H	184.404	47.30	3.42	14.85	33.00	32.57	43.50	-10.93
23V	252.078	44.00	3.93	16.62	32.99	31.56	46.00	-14.44
24V	264.114	41.80	4.07	17.31	32.94	30.24	46.00	-15.76
25V	276.094	39.80	4.20	17.97	32.90	29.07	46.00	-16.93
26V	288.102	43.10	4.20	18.60	32.95	32.95	46.00	-13.05
27V	300.081	42.50	4.20	12.70	33.00	26.40	46.00	-19.60
28H	300.306	46.70	4.20	12.70	33.00	30.61	46.00	-15.39
29H	336.087	46.10	4.72	13.09	32.85	31.06	46.00	-14.94
30H	384.071	48.00	5.18	13.56	32.80	33.94	46.00	-12.06
31V	384.106	42.00	5.18	13.56	32.80	27.94	46.00	-18.06

EMISSION LEVEL [dBuV] PEAK
Graph forPeak

6/10/2005 19:17:01



COMPATIBLE ELECTRONICS

COMPATIBLE ELECTRONICS

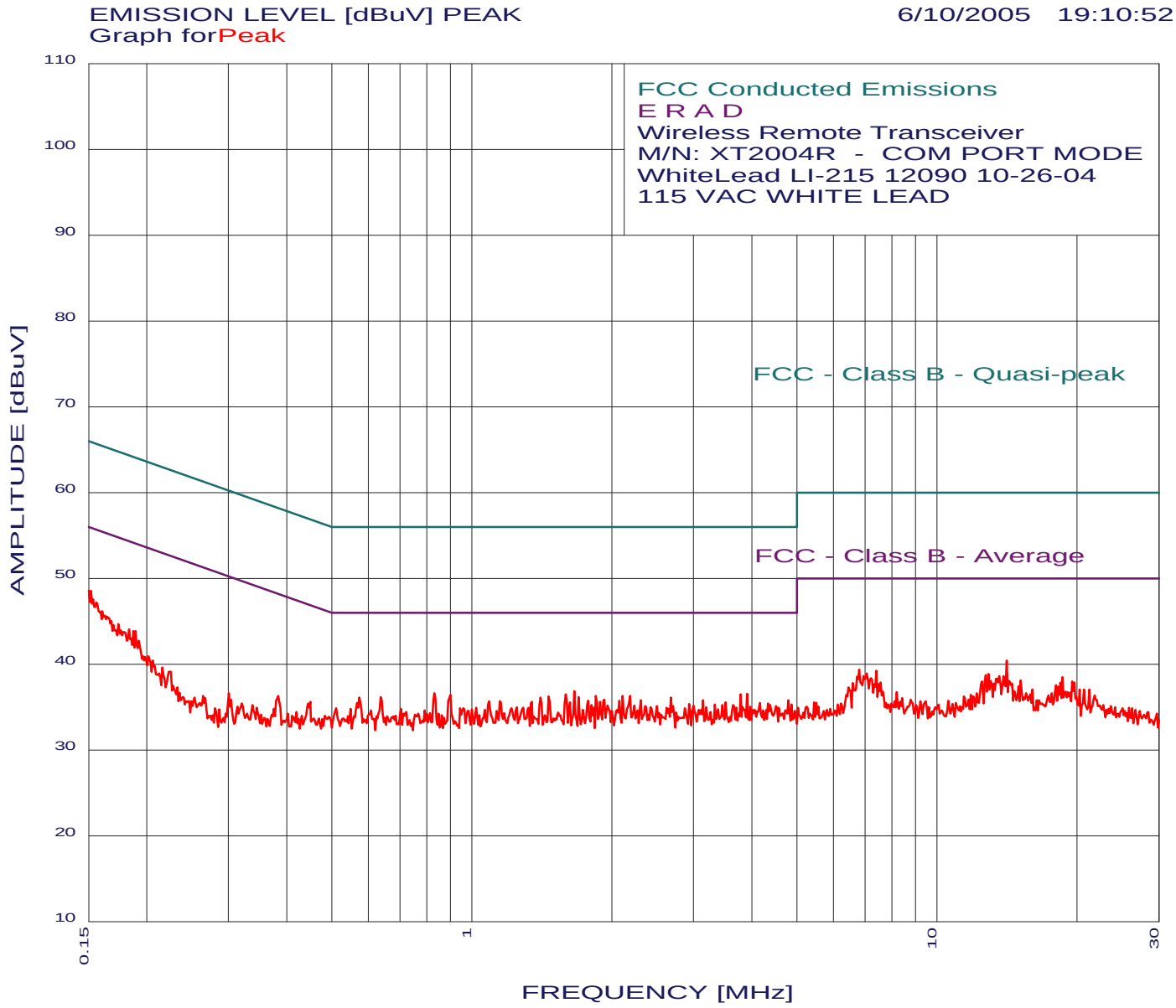
6/10/2005 19:17:01

E R A D
Wireless Remote Transceiver
M/N: XT2004R - COM PORT MODE
115 VAC BLACK LEAD
TEST ENGINEER : BENIGNO CHAVEZ

---

40 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.826	37.20	46.00	-8.80
2	1.663	37.05	46.00	-8.95
3	0.166	46.05	55.16	-9.10
4	0.162	46.06	55.34	-9.28
5	1.089	36.64	46.00	-9.36
6	13.269	40.63	50.00	-9.37
7	1.929	36.31	46.00	-9.69
8	1.849	36.29	46.00	-9.71
9	1.148	36.15	46.00	-9.85
10	2.156	36.04	46.00	-9.96
11	2.111	36.03	46.00	-9.97
12	4.774	36.00	46.00	-10.00
13	0.573	35.98	46.00	-10.02
14	3.841	35.90	46.00	-10.10
15	14.370	39.90	50.00	-10.10
16	4.600	35.88	46.00	-10.12
17	0.184	44.15	54.28	-10.14
18	0.637	35.79	46.00	-10.21
19	1.586	35.74	46.00	-10.26
20	0.175	44.45	54.72	-10.27
21	2.885	35.71	46.00	-10.29
22	1.338	35.69	46.00	-10.31
23	3.141	35.63	46.00	-10.37
24	2.002	35.62	46.00	-10.38
25	0.679	35.59	46.00	-10.41
26	1.781	35.58	46.00	-10.42
27	1.536	35.53	46.00	-10.47
28	3.903	35.51	46.00	-10.49
29	3.585	35.48	46.00	-10.52
30	1.283	35.48	46.00	-10.52
31	0.899	35.41	46.00	-10.59
32	1.412	35.40	46.00	-10.60
33	4.672	35.39	46.00	-10.61
34	3.328	35.35	46.00	-10.65
35	3.277	35.35	46.00	-10.65
36	1.629	35.35	46.00	-10.65
37	7.027	39.27	50.00	-10.73
38	4.408	35.26	46.00	-10.74
39	2.371	35.26	46.00	-10.74
40	6.773	39.25	50.00	-10.75



COMPATIBLE ELECTRONICS

COMPATIBLE ELECTRONICS

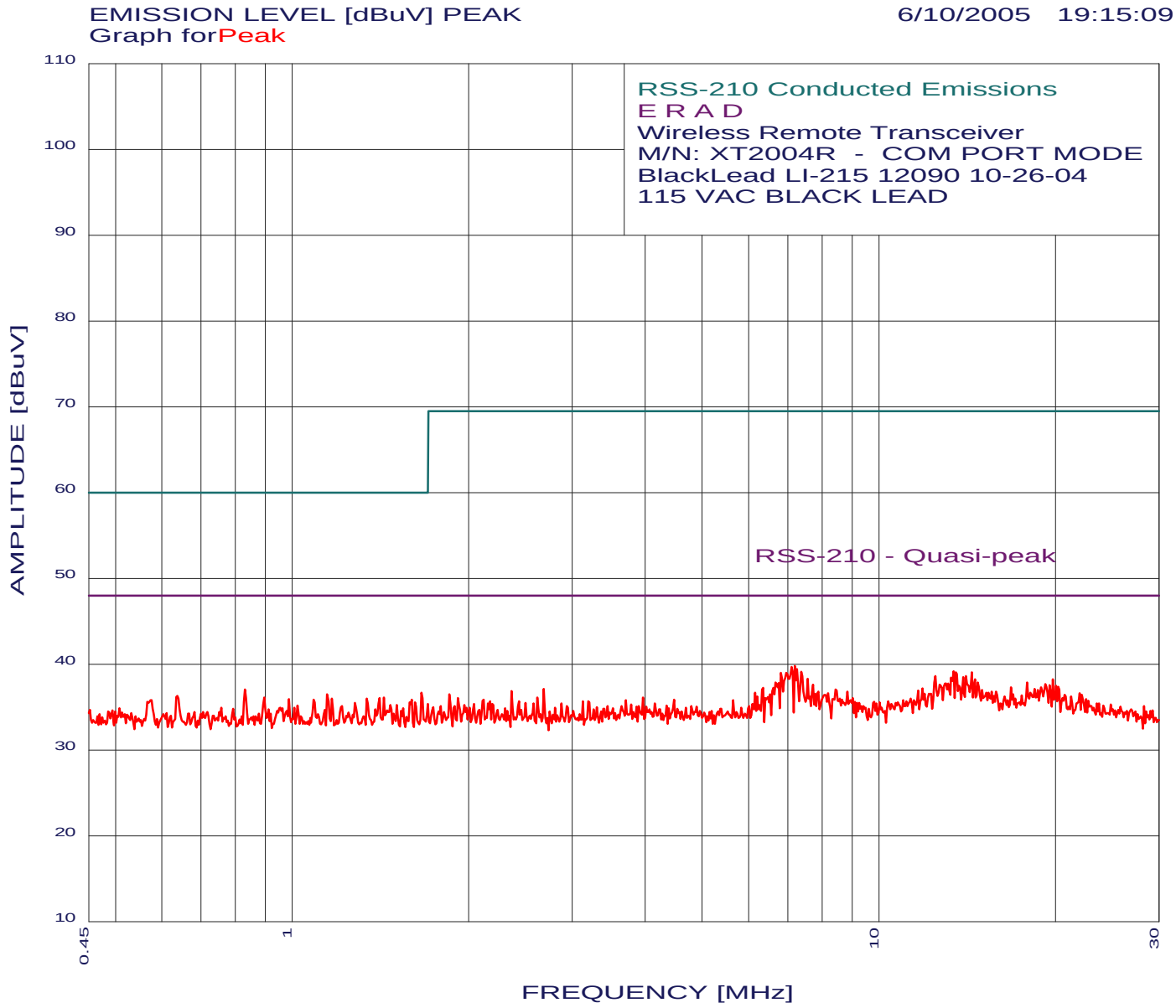
6/10/2005 19:10:52

E R A D
Wireless Remote Transceiver
M/N: XT2004R - COM PORT MODE
115 VAC WHITE LEAD
TEST ENGINEER : BENIGNO CHAVEZ

---

40 highest peaks above -50.00 dB of FCC - Class B - Average limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	0.152	48.55	55.91	-7.36
2	1.663	36.87	46.00	-9.13
3	0.831	36.61	46.00	-9.39
4	3.903	36.55	46.00	-9.45
5	1.594	36.45	46.00	-9.55
6	3.781	36.44	46.00	-9.56
7	0.899	36.42	46.00	-9.58
8	14.138	40.41	50.00	-9.59
9	1.849	36.31	46.00	-9.69
10	2.190	36.26	46.00	-9.74
11	2.111	36.25	46.00	-9.75
12	1.464	36.23	46.00	-9.77
13	0.637	36.19	46.00	-9.81
14	1.699	36.18	46.00	-9.82
15	2.679	36.12	46.00	-9.88
16	1.404	36.11	46.00	-9.89
17	0.573	36.08	46.00	-9.92
18	0.174	44.63	54.77	-10.13
19	1.929	35.82	46.00	-10.18
20	4.799	35.80	46.00	-10.20
21	2.310	35.77	46.00	-10.23
22	3.141	35.77	46.00	-10.23
23	0.189	43.82	54.06	-10.23
24	2.077	35.75	46.00	-10.25
25	0.183	44.03	54.33	-10.30
26	1.781	35.69	46.00	-10.31
27	0.187	43.83	54.15	-10.32
28	1.148	35.66	46.00	-10.34
29	1.089	35.65	46.00	-10.35
30	1.889	35.62	46.00	-10.38
31	1.345	35.60	46.00	-10.40
32	1.629	35.56	46.00	-10.44
33	3.511	35.51	46.00	-10.49
34	4.159	35.48	46.00	-10.52
35	4.339	35.39	46.00	-10.61
36	2.932	35.34	46.00	-10.66
37	6.809	39.31	50.00	-10.69
38	4.877	35.31	46.00	-10.69
39	3.328	35.29	46.00	-10.71
40	7.411	39.25	50.00	-10.75



COMPATIBLE ELECTRONICS

COMPATIBLE ELECTRONICS

6/10/2005 19:15:09

E R A D
Wireless Remote Transceiver
M/N: XT2004R - COM PORT MODE
115 VAC BLACK LEAD
TEST ENGINEER : BENIGNO CHAVEZ

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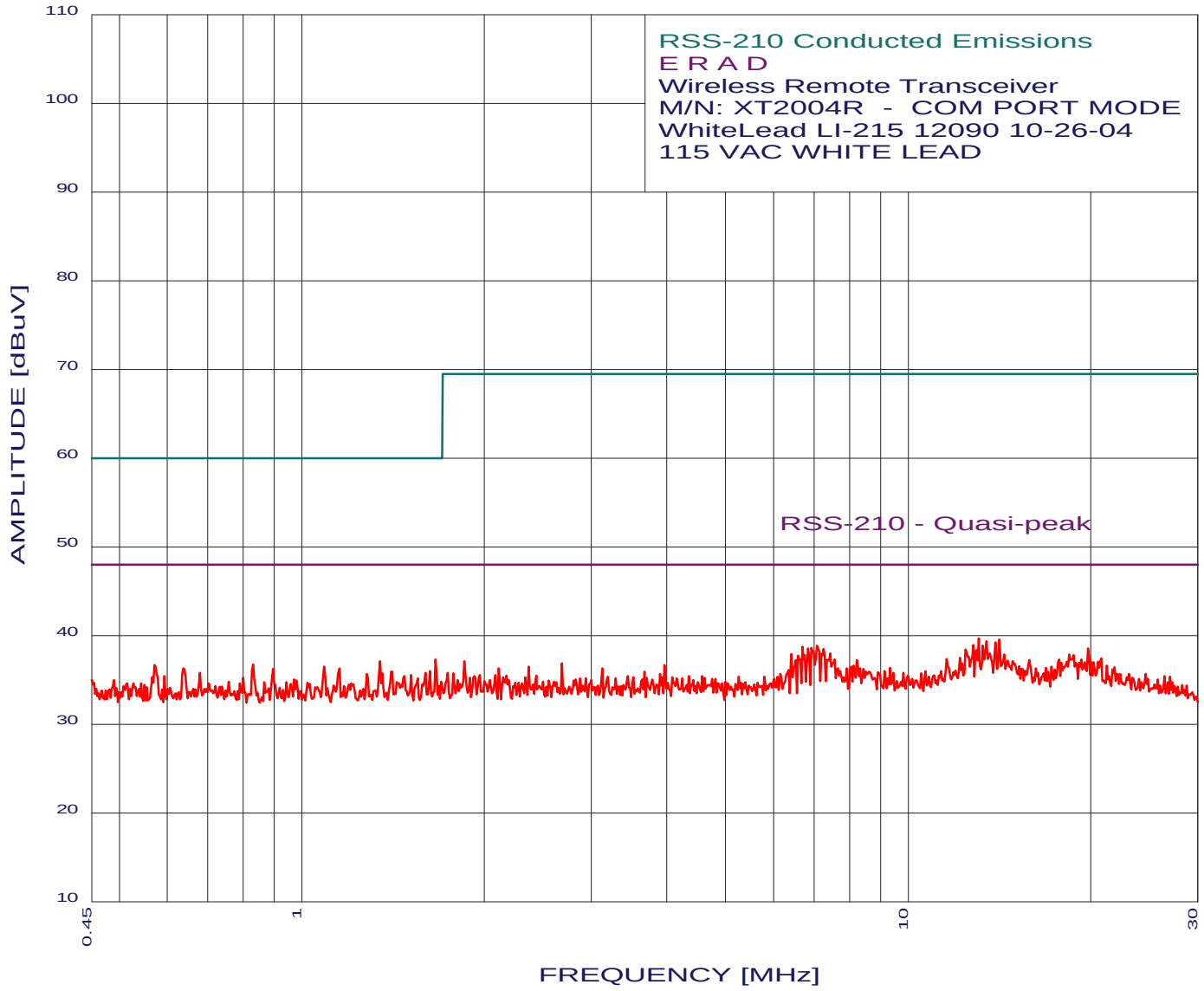
40 highest peaks above -50.00 dB of RSS-210 - Quasi-peak limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	7.196	39.77	48.00	-8.23
2	7.107	39.67	48.00	-8.33
3	7.256	39.38	48.00	-8.62
4	13.397	39.14	48.00	-8.86
5	7.380	39.08	48.00	-8.92
6	13.512	39.04	48.00	-8.96
7	14.391	39.00	48.00	-9.00
8	6.814	38.96	48.00	-9.04
9	14.088	38.58	48.00	-9.42
10	12.474	38.57	48.00	-9.43
11	13.913	38.47	48.00	-9.53
12	7.569	38.29	48.00	-9.71
13	19.801	38.25	48.00	-9.75
14	14.573	38.21	48.00	-9.79
15	6.673	37.85	48.00	-10.15
16	17.904	37.84	48.00	-10.16
17	14.755	37.83	48.00	-10.17
18	13.120	37.72	48.00	-10.28
19	19.227	37.63	48.00	-10.37
20	7.728	37.60	48.00	-10.40
21	12.685	37.59	48.00	-10.41
22	19.549	37.55	48.00	-10.45
23	20.053	37.44	48.00	-10.56
24	20.221	37.33	48.00	-10.67
25	18.908	37.31	48.00	-10.69
26	16.810	37.26	48.00	-10.74
27	6.345	37.23	48.00	-10.77
28	11.860	37.13	48.00	-10.87
29	2.682	37.09	48.00	-10.91
30	18.431	37.07	48.00	-10.93
31	8.442	37.03	48.00	-10.97
32	0.831	37.00	48.00	-11.00
33	15.007	36.94	48.00	-11.06
34	11.665	36.92	48.00	-11.08
35	2.365	36.86	48.00	-11.14
36	7.894	36.81	48.00	-11.19
37	15.849	36.80	48.00	-11.20
38	15.582	36.78	48.00	-11.22
39	8.841	36.75	48.00	-11.25
40	1.661	36.65	48.00	-11.35

EMISSION LEVEL [dBuV] PEAK
Graph forPeak

6/10/2005 19:13:04



COMPATIBLE ELECTRONICS

COMPATIBLE ELECTRONICS

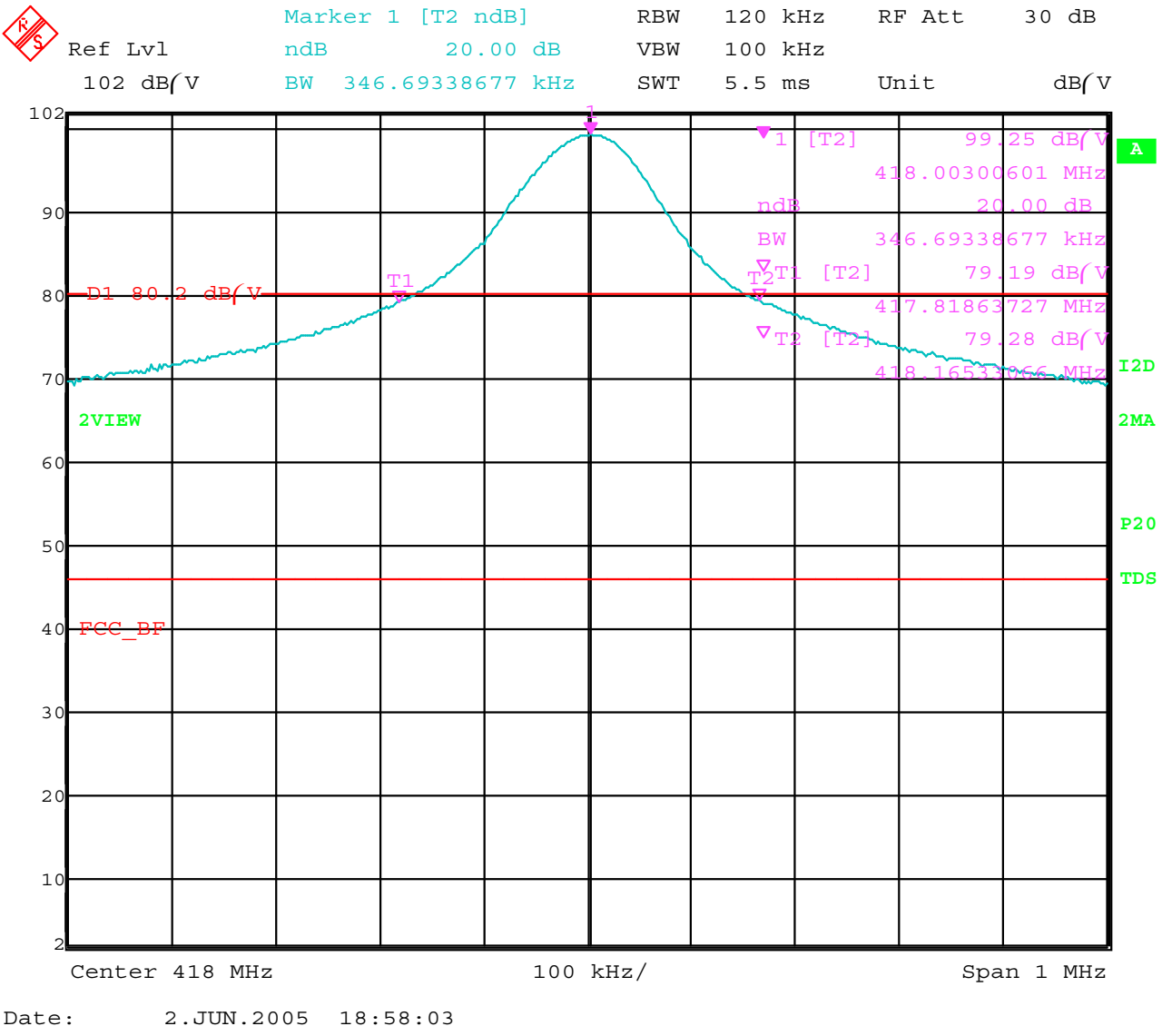
6/10/2005 19:13:04

E R A D
Wireless Remote Transceiver
M/N: XT2004R - COM PORT MODE
115 VAC WHITE LEAD
TEST ENGINEER : BENIGNO CHAVEZ

---

40 highest peaks above -50.00 dB of RSS-210 - Quasi-peak limit line
Peak criteria : 1.00 dB, Curve : Peak

Peak#	Freq(MHz)	Amp(dBuV)	Limit(dB)	Delta(dB)
1	13.065	39.63	48.00	-8.37
2	14.149	39.51	48.00	-8.49
3	13.455	39.36	48.00	-8.64
4	13.913	39.20	48.00	-8.80
5	12.794	38.91	48.00	-9.09
6	13.283	38.85	48.00	-9.15
7	7.077	38.83	48.00	-9.17
8	6.701	38.71	48.00	-9.29
9	6.928	38.62	48.00	-9.38
10	19.801	38.56	48.00	-9.44
11	6.842	38.52	48.00	-9.48
12	7.256	38.44	48.00	-9.56
13	12.423	38.38	48.00	-9.62
14	12.957	38.32	48.00	-9.68
15	7.443	37.95	48.00	-10.05
16	6.425	37.89	48.00	-10.11
17	18.431	37.84	48.00	-10.16
18	14.391	37.83	48.00	-10.17
19	6.588	37.70	48.00	-10.30
20	12.166	37.46	48.00	-10.54
21	20.824	37.43	48.00	-10.57
22	11.568	37.32	48.00	-10.68
23	17.753	37.29	48.00	-10.71
24	19.306	37.29	48.00	-10.71
25	1.661	37.27	48.00	-10.73
26	15.849	37.25	48.00	-10.75
27	6.532	37.20	48.00	-10.80
28	8.231	37.19	48.00	-10.81
29	1.853	37.11	48.00	-10.89
30	1.347	37.10	48.00	-10.90
31	14.879	37.07	48.00	-10.93
32	20.053	36.95	48.00	-11.05
33	20.221	36.94	48.00	-11.06
34	2.682	36.82	48.00	-11.18
35	0.831	36.71	48.00	-11.29
36	0.572	36.68	48.00	-11.32
37	3.964	36.66	48.00	-11.34
38	21.267	36.62	48.00	-11.38
39	8.126	36.59	48.00	-11.41
40	8.060	36.48	48.00	-11.52



20 dB Bandwidth of the Fundamental