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**Report of Measurements  
of Electromagnetic Compatibility Testing**

Test Report File No.:	<b>E236493</b>	Date of issue: 7/16/2003
Applicant:	AUR°EL SPA	
Model:	TX-4C	
Product Type:	Wireless Remote Control	
Power Supply:	1.5Vdc battery	
Manufacturer:	Same As Applicant	
License holder:	Same As Applicant	
Address:	V.le dell' Industria 31-33 35129 I- Padova, Italy	
Test Type:	<b>Compliance Investigation</b>	
Test Project Number:	03CA12998	
References(s)	FCC ID: RB4058402	

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## Report Directory

<b>1.0</b>	<b><i>GENERAL - Product Description</i></b>	<b>3</b>
1.1	Device Configuration During Test .....	3
1.2	Deviations from ANSI C63.4 .....	3
1.3	Device Modifications Necessary for Compliance .....	4
1.4	Test Summary .....	4
<b>2.0</b>	<b><i>EMISSIONS TEST REGULATIONS</i></b>	<b>4</b>
2.1	Documentation Information .....	4
	Identification .....	4
	Compliance information .....	5
	Labeling .....	5
	User information .....	7
2.2	EUT OPERATION MODE - EMISSIONS TESTS .....	8
2.2.1	Conducted Emissions Tests .....	9
2.2.2	Cease Operation Within 5 Seconds .....	9
2.2.3	Radiated Emissions Test (10 Meter Semi-Anechoic Chamber) .....	12
2.2.4	Occupied Bandwidth .....	20
2.2.5	Fundamental Frequency and Spurious Emissions Measurement Limit Calculations .....	23
<b>3.0</b>	<b><i>SUMMARY:</i></b>	<b>25</b>

File Number: E236493  
Project Number: 03CA12998  
Model Number: TX-4C  
FCC ID: RB4058402

Issued: 7/16/2003

## 1.0 G E N E R A L - Product Description

Device Function: RF transmitter with SAW resonator, up to 4 channels. It is for applications where codified controls are required.

According to the manufacturer, the device is not sold with any specific receiver.

There are 2 banks of dip switches in the device. The operation is described below and the switches were set for maximum emissions.

- A) Bank of 10 dipswitches (easier to locate when battery compartment is removed): this is a combination that must be set to "couple" one Tx with its corresponding receiving unit. Only Tx and Rx units that will have the same switches combination can work together.
- B) Bank of 4 dipswitches (under main enclosure shells): these switches ARE NOT TO BE CHANGED from original setting. Also, these switches, at AUREL discretion, could be removed and substituted with electrical shorts in the circuit. These switches are used to set the operation of the 4 push buttons on the device.

### 1.1 Device Configuration During Test

The device under test was tested in normal orientation that represents the worst-case orientation.

Continuously transmitting an intentional radio frequency in Continuous Wave (CW) for RF Emissions tests and in a normal Pulsed mode for all other tests.

The manufacturer configured the device.

Device	Manufacturer	Model Number	Serial Number	FCC ID
Wireless Remote Control	Aur <sup>o</sup> el SPA	TX-4C	NA	XXX-058402

"The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report"

### 1.2 Deviations from ANSI C63.4

Not applicable, the ANSI C63.4 test measurements procedures were employed.

### 1.3 Device Modifications Necessary for Compliance

N/A

### 1.4 Test Summary

Test	Basic Standard	Considered	Tested	In Compliance
Conducted Voltage Emissions (Continuous Data Transmit Mode)	FCC Part 15 Subpart B, Class B. Paragraph 15.205	Y	NA	NA
Radiated Emissions	FCC Part 15 Subpart C, Class B, Intentional Radiators, Paragraph 15.209	Y	Y	Y
Cease Operation < 5 seconds	FCC Part 15 Subpart C, Paragraph 15.231	Y	Y	Y
Occupied Bandwidth	FCC Part 15 Subpart C, Paragraph 15.231	Y	Y	Y

## 2.0 EMISSIONS TEST REGULATIONS

FCC Part 15 Subpart C, Paragraph 15.209 & 15.231

### 2.1 Documentation Information

#### Identification.

Devices Subject to Verification

In 47 CFR, Part 2, § 2.954:

“Devices subject only to verification shall be uniquely identified by the person responsible for marketing or importing the equipment within the United States. However, the identification shall not be of a format which could be confused with the FCC Identifier required on certified, notified or type accepted equipment. The importer or manufacturer shall maintain adequate identification records to facilitate positive identification for each verified device.”

Devices Subject to Declaration of Conformity

In 47 CFR, Part 2, **§ 2.1074**:

File Number: E236493  
Project Number: 03CA12998  
Model Number: TX-4C  
FCC ID: RB4058402

Issued: 7/16/2003

“Devices subject only to a Declaration of Conformity shall be uniquely identified by the responsible party. This identification shall not be of a format which could be confused with the FCC Identifier required on certified, notified, type accepted or type approved equipment. The responsible party shall maintain adequate identification records to facilitate positive identification for each device.”

## Compliance information

§ 2.1077 Compliance information.

(a) If a product must be tested and authorized under a Declaration of Conformity, a compliance information statement shall be supplied with the product at the time of marketing or importation, containing the following information:

- (1) Identification of the product, e.g., name and model number;
- (2) A statement, similar to that contained in § 15.19(a)(3) of this chapter, that the product complies with part 15 of this chapter; and
- (3) The identification, by name, address and telephone number, of the responsible party, as defined in § 2.909.

The responsible party for a Declaration of Conformity must be located within the United States.

(c) The compliance information statement shall be included in the user's manual or as a separate sheet.

§ 15.19(a)(3):

“All other devices shall bear the following statement in a conspicuous location on the device:

*This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.”*

## Labeling.

### 1.6.3.1 Certification or Verification

In addition to the requirements in Part 2 of this CFR 47 (See **1.6.1 Identification** above), a device subject to certification or verification shall be labeled as follows:

(1) Receivers associated with the operation of a licensed radio service, e.g., FM broadcast under Part 73, land mobile operation under Part 90, etc., shall bear the following statement in a conspicuous location on the device:

This device complies with Part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

(2) A stand-alone cable input selector switch, shall bear the following statement in a conspicuous location on the device:

This device is verified to comply with Part 15 of the FCC Rules for use with cable television service.

(3) All other devices shall bear the following statement in a conspicuous location on the device:

File Number: E236493  
Project Number: 03CA12998  
Model Number: TX-4C  
FCC ID: RB4058402

Issued: 7/16/2003

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

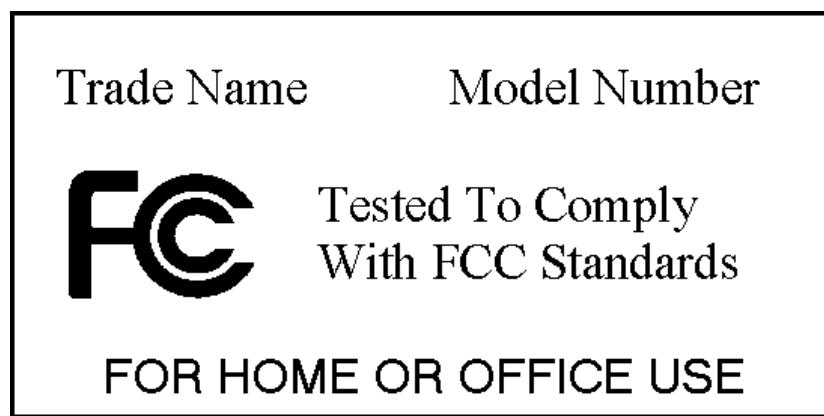
(4) Where a device is constructed in two or more sections connected by wires and marketed together, the statement specified under paragraph (a) of this section is required to be affixed only to the main control unit.

(5) When the device is so small or for such use that it is not practicable to place the statement specified under paragraph (a) of this section on it, the information required by this paragraph shall be placed in a prominent location in the instruction manual or pamphlet supplied to the user or, alternatively, shall be placed on the container in which the device is marketed. However, the FCC identifier or the unique identifier, as appropriate, must be displayed on the device.

#### **1.6.3.2 Declaration of Conformity Labeling**

In addition to the requirements in Part 2 of CFR 47 (See **1.6.1 Identification** above), a device subject to authorization under a Declaration of Conformity shall be labeled as follows:

- (1) The label shall be located in a conspicuous location on the device and shall contain the unique identification described in Section 2.1074 of this chapter and the following logo:
  - (i) If the product is authorized based on testing of the product or system:



Alternate label format for small devices:



**Tested To Comply  
With FCC Standards  
FOR HOME OR OFFICE USE**

The text shown in ***bold-face italics*** may be placed in a prominent location in the instruction manual or pamphlet supplied to the user.

- (2) Label text and information should be in a size of type large enough to be readily legible, consistent with the dimensions of the equipment and the label. However, the type size for the text is not required to be larger than eight point.
- (3) When the device is so small or for such use that it is not practicable to place the statement specified under paragraph (b)(1) of this section on it, such as for a CPU board or a plug-in circuit board peripheral device, the text associated with the logo may be placed in a prominent location in the instruction manual or pamphlet supplied to the user. However, the unique identification (trade name and model number) and the logo must be displayed on the device.
- (4) The label shall not be a stick-on, paper label. The label on these products shall be permanently affixed to the product and shall be readily visible to the purchaser at the time of purchase, as described in Section 2.925(d) of this chapter. "Permanently affixed" means that the label is etched, engraved, stamped, silk-screened, indelibly printed, or otherwise permanently marked on a permanently attached part of the equipment or on a nameplate of metal, plastic, or other material fastened to the equipment by welding, riveting, or a permanent adhesive. The label must be designed to last the expected lifetime of the equipment in the environment in which the equipment may be operated and must not be readily detachable.

## User information.

In 47 CFR, Part 15, § 15.21 Information to user:

"The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment."

In 47 CFR, Part 15, § 15.105 Information to the user:

Class A Devices

"(a) For a Class A digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

*NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not*

*installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense."*

### Class B Devices

"(b) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

*NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:*

- *Reorient or relocate the receiving antenna.*
- *Increase the separation between the equipment and receiver.*
- *Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.*
- *Consult the dealer or an experienced radio/TV technician for help*

"(d) For systems incorporating several digital devices, the statement shown in paragraph (a) or (b) of this section needs to be contained only in the instruction manual for the main control unit."

## 2.2 EUT OPERATION MODE - EMISSIONS TESTS

As per manufacturer's instructions: Continuous transmission for Radiated Emissions testing and normal transmission for all other tests.

File Number: E236493  
Project Number: 03CA12998  
Model Number: TX-4C  
FCC ID: RB4058402

Issued: 7/16/2003

## 2.2.1 Conducted Emissions Tests

### Test Not Applicable

EUT is powered by 1.5Vdc battery.

## 2.2.2 Cease Operation Within 5 Seconds

### Test Applicable

Temperature: 21.6 °C  
Humidity: 45 %RH  
Pressure: 994 milbar  
Date test performed: 29 May 2003

#### Test Procedure:

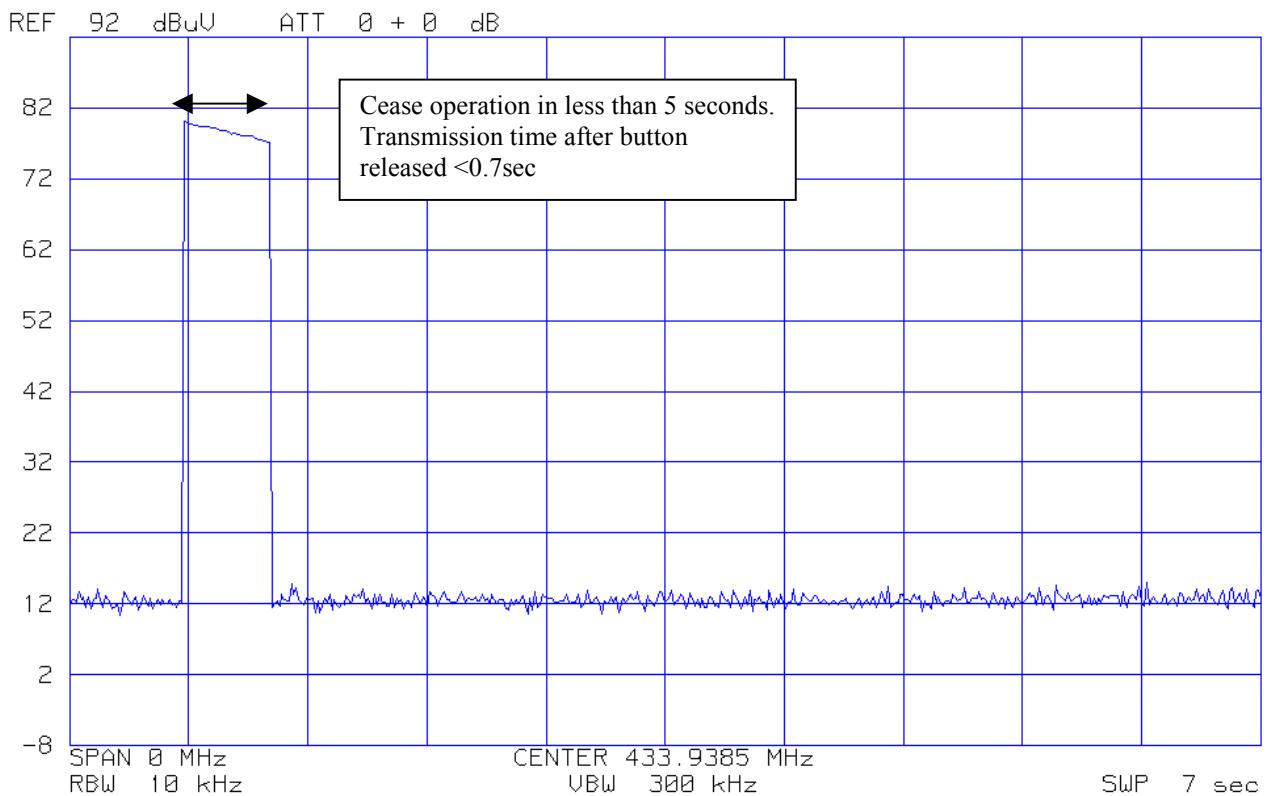
This test is performed one time at any frequency band. A manual operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

#### Test equipment for Cease Operation:

ESI26	Rhode & Schwartz	EMI Receiver	Equipment No.: ME5B-081
		Quasi Peak BW:	200Hz 9kHz to 150kHz
		RBW	10 KHz
		Quasi Peak BW:	9kHz 150kHz to 30MHz
		RBW	100 KHz
		Quasi Peak BW:	10 kHz 30 to 1000MHz
		RBW	300 MHz
Range: 0 – 7 sec	Last Calibration Date: 20 Aug 2002	Calibration Due Date: 20 Aug 2002	
3121C	EMCO	Dipole Antenna Set	Equipment No.: ME5-751
Range: 433MHz +/-2MHz	Last Calibration Date: 06 Mar 2003	Calibration Due Date: 06 Mar 2004	
99760-00	Cole Parmer	Humidity/Temp/Barometric Pressure	Equipment No.: ME4-268
	Temp: 0-55°		
	Humidity: 25% to 95% RH		
	Pressure: 765 to 1050 mbar		
	Last Calibration Date: 27 May 2003	Calibration Due Date: 27 May 2004	

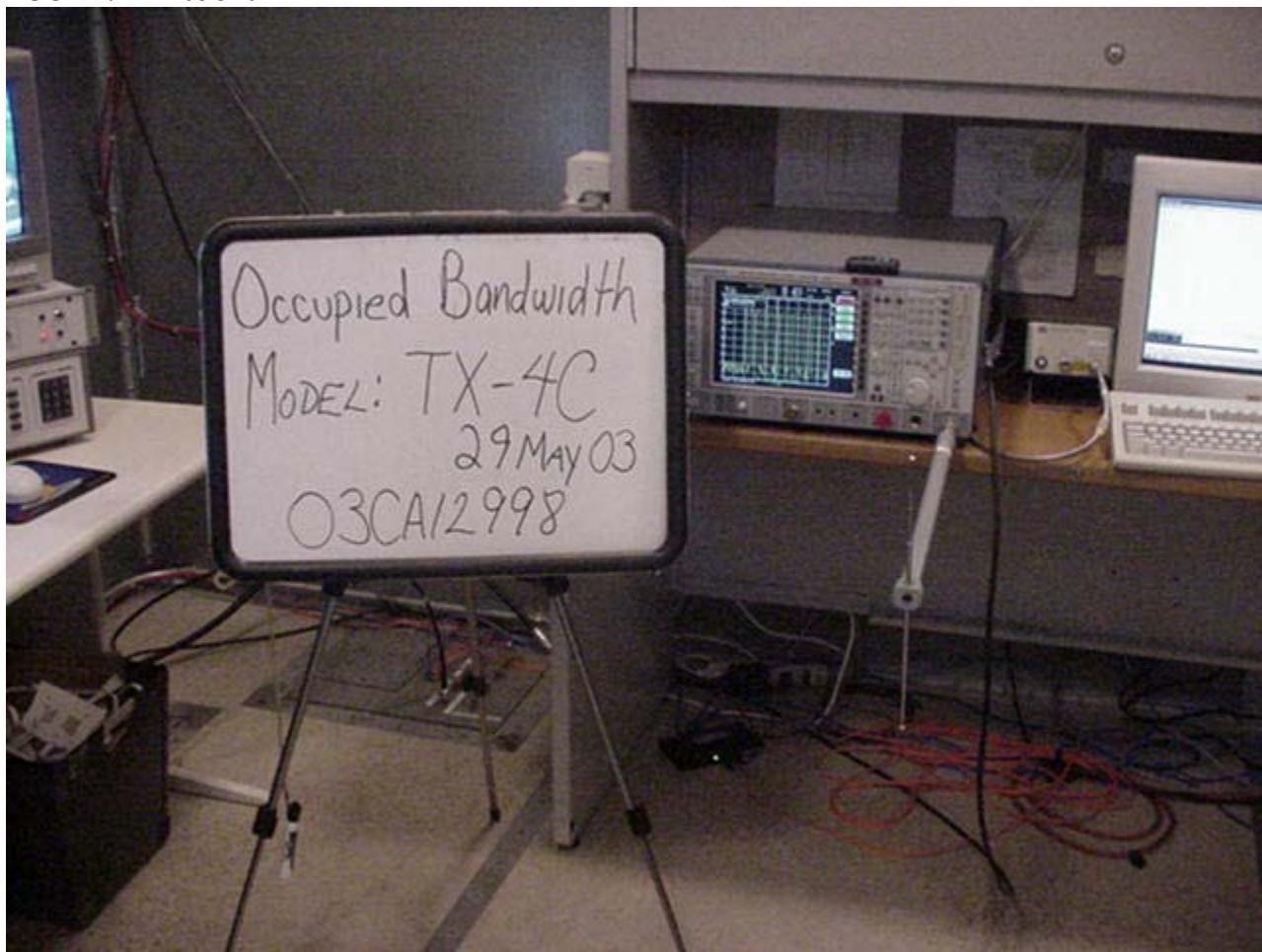
File Number: E236493  
Project Number: 03CA12998  
Model Number: TX-4C  
FCC ID: RB4058402

Issued: 7/16/2003



File Number: E236493  
Project Number: 03CA12998  
Model Number: TX-4C  
FCC ID: RB4058402

Issued: 7/16/2003



#### **Cease Operation Test Set-Up**

(although the photo shown is labeled "Occupied BW", the setup for Cease Operation is identical and this picture is representative for this investigation.)

File Number: E236493  
Project Number: 03CA12998  
Model Number: TX-4C  
FCC ID: RB4058402

Issued: 7/16/2003

### 2.1.3 Radiated Emissions Test (10 Meter Semi-Anechoic Chamber)

#### Test Applicable

Temperature: 22.0 °C  
Humidity: 44% RH  
Pressure: 1030 milbar  
Date test performed: 27 May 2003

The EUT (equipment under test) was tested in 3 orthogonal axes and the orientation depicted in the Radiated Emission test set-up was deemed worst case.

Mode: "Constant Wave Transmit"

Measurement distance: 3 Meters

Frequency Range: 30MHz - 5000MHz Electric

#### Paragraph 15.35 :

When the Radiated Limits are expressed in terms of the average value of the emissions, and pulse operation is employed, the pulse measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds (100ms) or in cases where the pulse train exceeds 0.1 seconds the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.

#### Test equipment used for final radiated emissions tests:

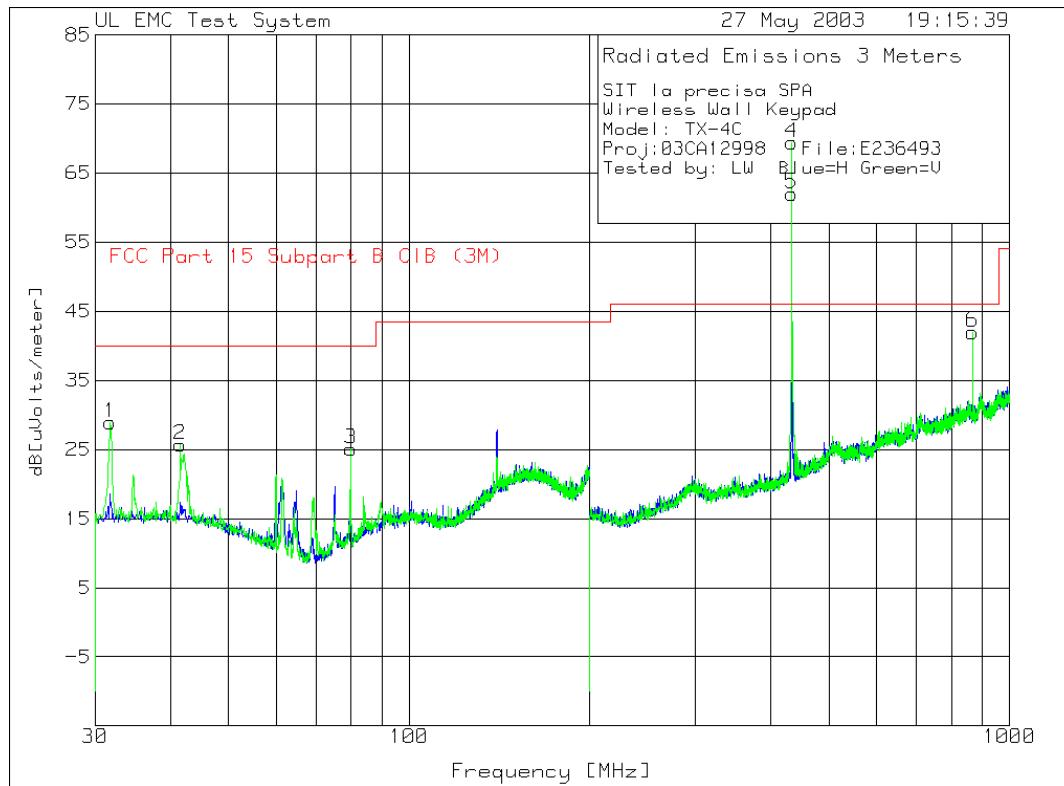
ESI26	Rhode & Schwartz	EMI Receiver	Equipment No.: ME5B-081
		Quasi Peak BW:	200Hz 9kHz to 150kHz
		RBW	10 KHz
		Quasi Peak BW:	9kHz 150kHz to 30MHz
		RBW	100 KHz
		Quasi Peak BW:	120 kHz 30 to 1000MHz
		RBW	1.0 MHz
Range: 30MHz-5GHz	Last Calibration Date: 20 August 2002	Calibration Due Date: 20 August 2003	

File Number: E236493  
Project Number: 03CA12998  
Model Number: TX-4C  
FCC ID: RB4058402

Issued: 7/16/2003

**Test Accessories for Radiated Emissions:**

<b>94455-1</b>	<b>Ailtech</b>	<b>Biconnical Antenna</b>	<b>Equipment No.: ME5-439</b>
Last Calibration Date: 15 November 2002		Calibration Due Date: 15 November 2003	
<b>3146 EMCO</b>	<b>Log Periodic Antenna</b>	<b>Equipment No.: ME5-451</b>	
Last Calibration Date: 21 November 2002		Calibration Due Date: 21 November 2003	
<b>RGA-180</b>	<b>EMCO</b>	<b>Horn Antenna</b>	<b>Equipment No.: ME5-565</b>
Last Calibration Date: 17 June 2002		Calibration Due Date: 17 June 2003	
<b>8449B Hewlett Packard</b>	<b>1-26GHz Pre-Amp</b>	<b>Equipment No.: ME5-914</b>	
<b>99760-00</b>	<b>Cole Parmer</b>	<b>Humidity/Temp/Barometric Pressure</b>	<b>Equipment No.: ME4-268</b>
Range: Temp: 0-55°		Humidity: 25% to 95% RH	Pressure: 765 to 1050 mbar
Last Calibration Date: 27 May 2003		Calibration Due Date: 27 May 2004	



File Number: E236493  
Project Number: 03CA12998  
Model Number: TX-4C  
FCC ID: RB4058402

Issued: 7/16/2003

SIT la precisa SPA  
Wireless Remote Control  
Model: TX-4C  
Proj:03CA12998 File:E236493  
Tested by: LW Blue=H Green=V

Test No.	Frequency [MHz]	Meter Reading [dB (uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB[uVolts/meter]	Limit:1
=====						
Vertical 30 - 200MHz -----						
1	31.7859	14.7 pk	.9	13.3	28.9	40
	Azimuth:356	Height:198	Vert	Margin [dB]		-11.1
2	41.5658	11.75 pk	.9	13	25.65	40
	Azimuth:87	Height:198	Vert	Margin [dB]		-14.35
3	80.005	15.34 pk	1.3	8.4	25.04	40
	Azimuth:152	Height:100	Vert	Margin [dB]		-14.96
Horizontal 200 - 1000MHz -----						
5	433.9446	43.08 pk	3.2	15.7	61.98	80.7
	Azimuth:359	Height:299	Horz	Margin [dB]		-18.72
Vertical 200 - 1000MHz -----						
4	433.9446	50.5 pk	3.2	15.7	69.4	80.7
	Azimuth:62	Height:101	Vert	Margin [dB]		-11.3
6	867.956	15.58 pk	4.4	22	41.98	46
	Azimuth:247	Height:101	Vert	Margin [dB]		-4.02

LIMIT 1: FCC Part 15 Subpart B ClB (3M) and FCC Part 15, Subpart C, 15.231  
LIMIT 2: NONE  
LIMIT 3: NONE  
LIMIT 4: NONE  
LIMIT 5: NONE  
LIMIT 6: NONE

pk - Peak detector  
qp - Quasi-Peak detector  
av - Average detector  
avlg - denotes average log detection  
avem - denotes EMI average detection  
tm - Trace Math Result

File Number: E236493  
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FCC ID: RB4058402

Issued: 7/16/2003

SIT la precisa SPA  
Wireless Remote Control  
Model: TX-4C  
Proj:03CA12998 File:E236493  
Tested by: LW Blue=H Green=V

Frequency [MHz]	Meter Reading [dB (uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level dB [uVolts/meter]	Limit:1
<hr/>					
Vertical 30 - 200MHz					
31.808	17.5 qp	.9	13.3	31.7	40
Azimuth: 19	Height:359	Vert	Margin [dB]:	-8.3	
42.435	17.5 qp	.9	13	31.4	40
Azimuth: 61	Height:303	Vert	Margin [dB]:	-8.6	
79.9985	20 qp	1.3	8.4	29.7	40
Azimuth: 4	Height:378	Vert	Margin [dB]:	-10.3	
Horizontal 200 - 1000MHz					
433.9287	44.18 qp	3.2	15.7	63.08	80.7*
Azimuth: 177	Height:313	Horz	Margin [dB]:	-17.62	
433.9193	38.54 avem	3.2	15.7	57.44	80.7*
Azimuth: 170	Height:314	Horz	Margin [dB]:	-23.26	
Vertical 200 - 1000MHz					
433.9231	54 qp	3.2	15.7	72.9	80.7*
Azimuth: 90	Height:133	Vert	Margin [dB]:	-7.8	
433.9212	47.44 avem	3.2	15.7	66.34	80.7*
Azimuth: 84	Height:133	Vert	Margin [dB]:	-14.36	
867.8273	22.16 qp	4.4	22	48.56	60.7*
Azimuth: 221	Height:136	Vert	Margin [dB]:	-12.14	
867.8489	18.32 avem	4.4	22	44.72	60.7*
Azimuth: 218	Height:134	Vert	Margin [dB]:	-15.98	

\*Denotes Fundamental or Spurious Emission

LIMIT 1: FCC Part 15 Subpart B ClB (3M) and FCC Part 15, Subpart C, 15.231

LIMIT 2: NONE

LIMIT 3: NONE

LIMIT 4: NONE

LIMIT 5: NONE

LIMIT 6: NONE

pk - Peak detector

qp - Quasi-Peak detector

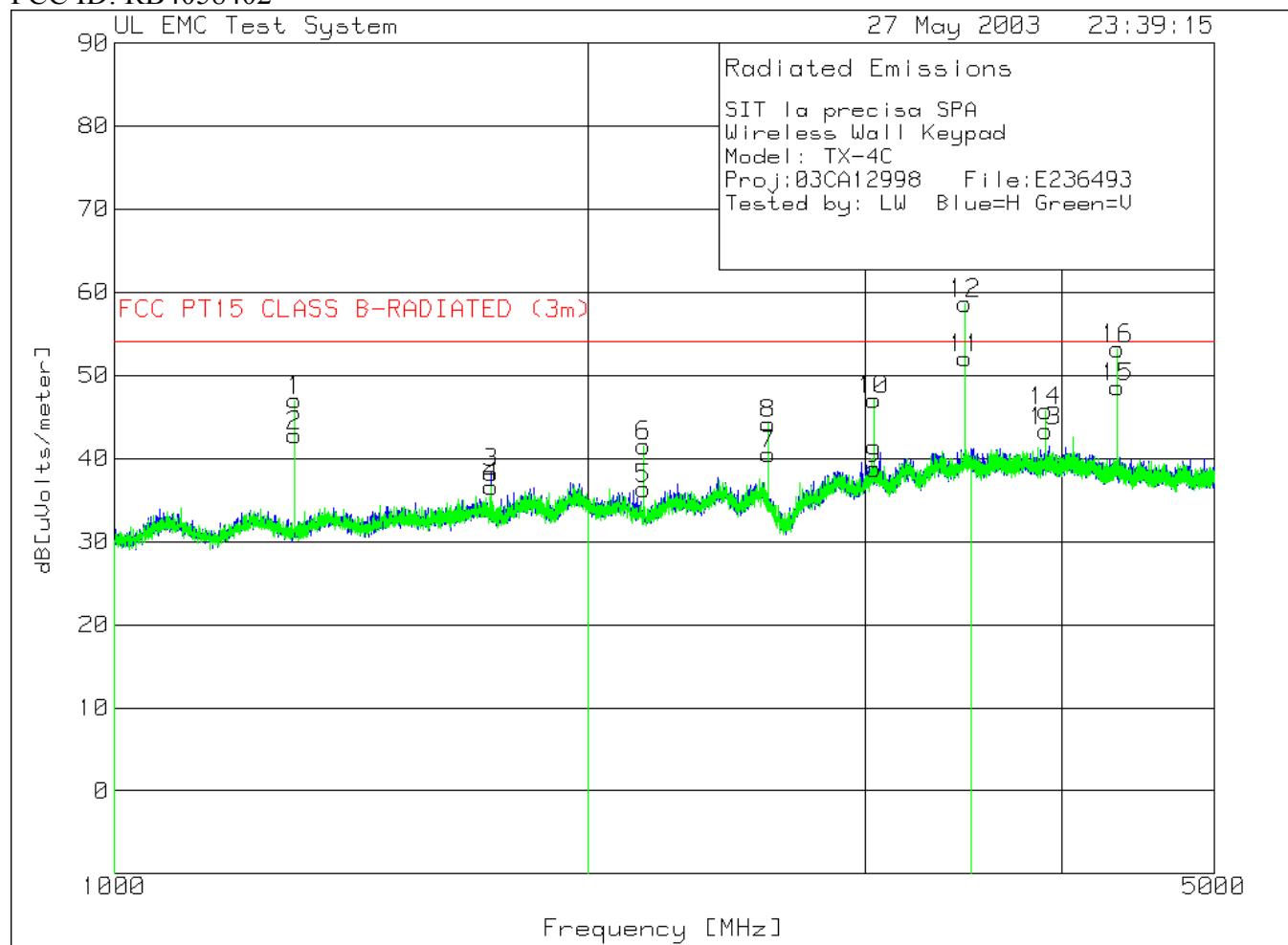
av - Average detector

avlg - Average log detector

avem - EMI Average detector

File Number: E236493  
Project Number: 03CA12998  
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SIT la precisa SPA  
Wireless Remote Control  
Model: TX-4C  
Proj: 03CA12998 File: E236493  
Tested by: LW Blue=H Green=V

Test Frequency [MHz]	Meter Reading [dB(uV)]	Gain/Loss Factor [dB]	Transducer Factor [dB]	Level [dB]	Limit:1
Horizontal 1000 - 2000MHz					
1301.8281	35.52	avem	-32.9	26	28.62
Azimuth: 176	Height:112	Horz		Margin [dB]:	54
					-25.38
1736.2878	29.21	avem	-31.6	27.7	25.31
Azimuth: 184	Height:189	Horz		Margin [dB]:	54
					-28.69
Horizontal 2000 - 3500MHz					
2169.5269	28.9	avem	-30.6	29.5	27.8
Azimuth: 164	Height:119	Horz		Margin [dB]:	54
					-26.2
2603.8129	27.34	avem	-30.2	30.8	27.94
Azimuth: 7	Height:156	Horz		Margin [dB]:	54
					-26.06

File Number: E236493  
Project Number: 03CA12998  
Model Number: TX-4C  
FCC ID: RB4058402

Issued: 7/16/2003

3039.8987	26.61	avem	-29	31.6	29.21	54
Azimuth: 132	Height:103	Horz		Margin [dB]:	-24.79	
3471.5374	34.51	avem	-27.2	32.7	40.01	54
Azimuth: 23	Height:143	Horz		Margin [dB]:	-13.99	
Horizontal 3500 - 5000MHz						
3905.7738	25.56	avem	-27.3	34.1	32.36	54
Azimuth: 173	Height:105	Horz		Margin [dB]:	-21.64	
4339.1669	28.63	avem	-27.3	33.9	35.23	54
Azimuth: 197	Height:108	Horz		Margin [dB]:	-18.77	
Vertical 1000 - 2000MHz						
1301.72	42.21	avem	-32.9	26	35.31	54
Azimuth: 276	Height:105	Vert		Margin [dB]:	-18.69	
1735.579	31.91	avem	-31.6	27.7	28.01	54
Azimuth: 174	Height:110	Vert		Margin [dB]:	-25.99	
Vertical 2000 - 3500MHz						
2169.7766	30.64	avem	-30.6	29.5	29.54	54
Azimuth: 43	Height:151	Vert		Margin [dB]:	-24.46	
2603.7	28.73	avem	-30.2	30.8	29.33	54
Azimuth: 80	Height:149	Vert		Margin [dB]:	-24.67	
3037.6388	29.31	avem	-29	31.6	31.91	54
Azimuth: 54	Height:155	Vert		Margin [dB]:	-22.09	
3471.3193	37.45	avem	-27.2	32.7	42.95	54
Azimuth: 15	Height:132	Vert		Margin [dB]:	-11.05	
Vertical 3500 - 5000MHz						
3905.1749	26.15	avem	-27.3	34.1	32.95	54
Azimuth: 250	Height:101	Vert		Margin [dB]:	-21.05	
4339.2634	27.32	avem	-27.3	33.9	33.92	54
Azimuth: 238	Height:106	Vert		Margin [dB]:	-20.08	

LIMIT 1: FCC Part 15 Subpart B ClB (3M) and FCC Part 15, Subpart C, 15.231  
LIMIT 2: NONE  
LIMIT 3: NONE  
LIMIT 4: NONE  
LIMIT 5: NONE  
LIMIT 6: NONE

pk - Peak detector  
qp - Quasi-Peak detector  
av - Average detector  
avlg - Average log detector  
avem - EMI Average detector

File Number: E236493  
Project Number: 03CA12998  
Model Number: TX-4C  
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Issued: 7/16/2003



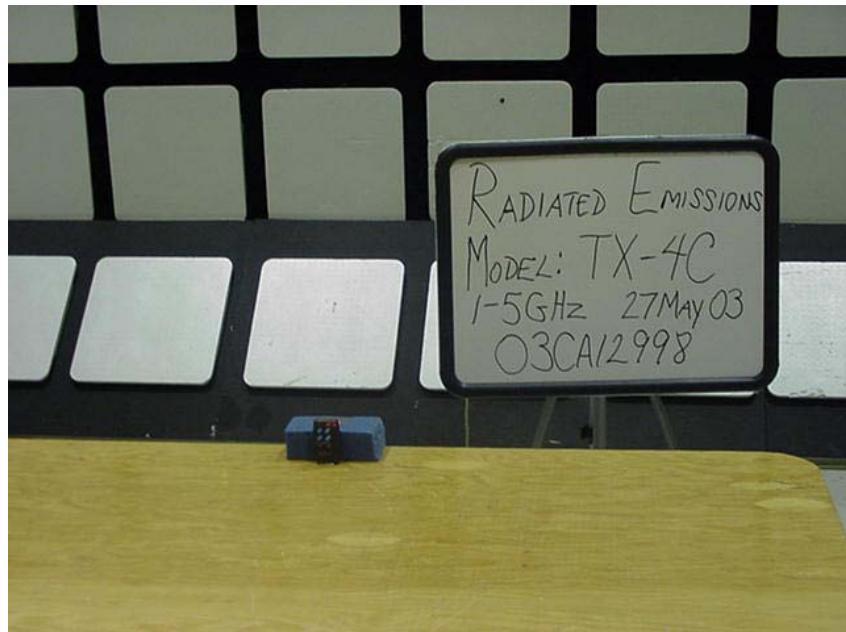
**Radiated Emissions Test Set-Up – 30-1000MHz**



**Radiated Emissions Test Set-Up – 30-1000MHz**

File Number: E236493  
Project Number: 03CA12998  
Model Number: TX-4C  
FCC ID: RB4058402

Issued: 7/16/2003



**Radiated Emissions Test Set-Up -1-5GHz**



**Radiated Emissions Test Set-Up -1-5GHz**

File Number: E236493  
Project Number: 03CA12998  
Model Number: TX-4C  
FCC ID: RB4058402

Issued: 7/16/2003

## 2.2.4 Occupied Bandwidth

Temperature: 22 °C  
Humidity: 45 %RH  
Pressure: 994 mbar  
Date test performed: 29 May 2003

The bandwidth of the emissions shall be no wider than 0.25% of the center frequency for the devices operating above 70 MHz and below 900 MHz. Bandwidth is determined at the points 20 dB down from the modulated carrier.

433.92MHz

Limit: Bandwidth = 0.25% of 433.92MHz = 1.0848MHz

Actual: 0.04MHz

### Test equipment used for Occupied Bandwidth Measurements:

<b>ESI26</b>	<b>Rhode &amp; Schwartz</b>	<b>EMI Receiver</b>	<b>Equipment No.: ME5B-081</b>
		Quasi Peak BW: 200Hz	9kHz to 150kHz
		RBW 10 KHz	
		Quasi Peak BW: 9kHz	150kHz to 30MHz
		RBW 300 KHz	
		Quasi Peak BW: 120 kHz	30 to 1000MHz
		RBW 10 KHz	

Range: 400-500MHz Last Calibration Date: 20 AUG 2002 Calibration Due Date: 20 AUG 2002

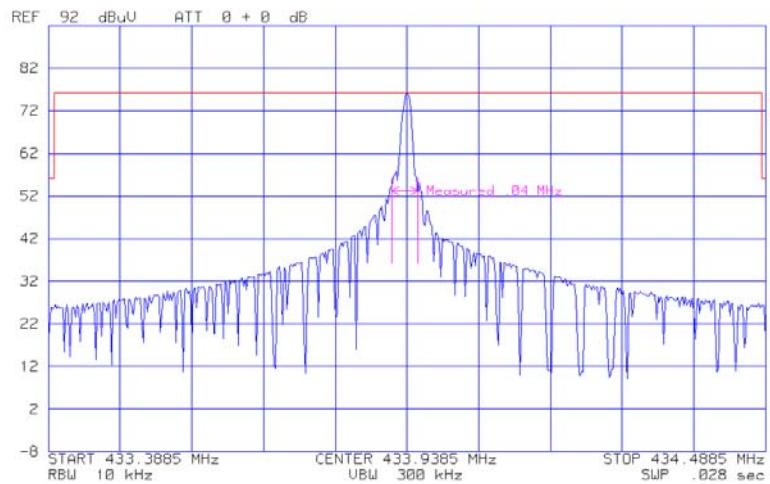
**3121C** **EMCO** **Dipole Antenna Set** **Equipment No.: ME5-751**

Range: 433MHz +/-2MHz Last Calibration Date: 06 Mar 2003 Calibration Due Date: 06 Mar 2004

<b>99760-00</b>	<b>Cole Parmer</b>	<b>Humidity/Temp/Barometric Pressure</b>	<b>Equipment No.: ME4-268</b>
		Range: Temp: 0-55°	Humidity: 25% to 95% RH Pressure: 765 to 1050 mbar
		Last Calibration Date: 27 May 2003	Calibration Due Date: 27 May 2004

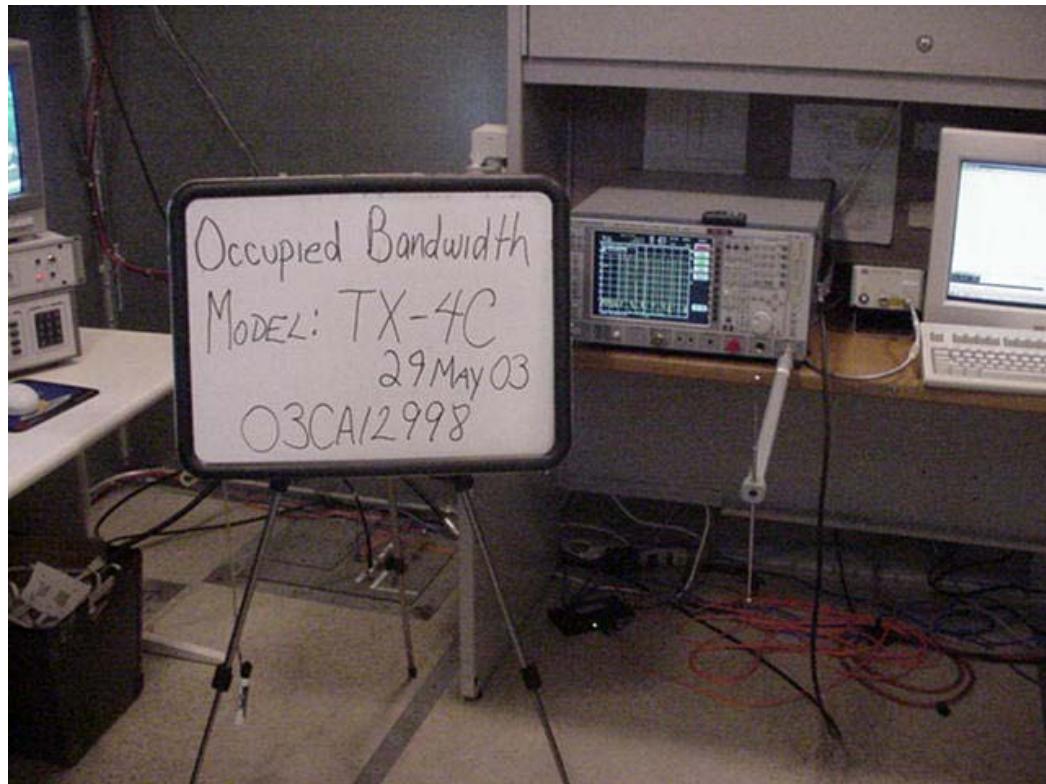
File Number: E236493  
Project Number: 03CA12998  
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File Number: E236493  
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**Occupied Bandwidth Test Set-Up**

## 2.2.5 Fundamental Frequency and Spurious Emissions Measurement Limit Calculations

### Limit Calculation

Fundamental Frequency is 433.92MHz

From table in section 15.231

Limit =  $41.6667(433.92\text{MHz}) - 7083.3333$

Limit = 10846.3uV

Limit = Log 10846.3(20)

Limit = 80.7dBuV

Limit for Spurious Emissions = 20dB lower then fundamental = 60.7dBuV/m

### ***Radiated Emissions test data obtained during measurements.***

Field Strength (dB $\mu$ V/m) = Measured field strength(dB $\mu$ V/m) + Antenna Factor(dB) + Cable Factor(dB)

Field Strength (dB $\mu$ V/m) = 19.7dB $\mu$ V/m + 12.5dB + 0.3dB

Field Strength (dB $\mu$ V/m) = 32.5

### **Duty Cycle factor calculation.**

Total number of pulses counted in 29.26ms.

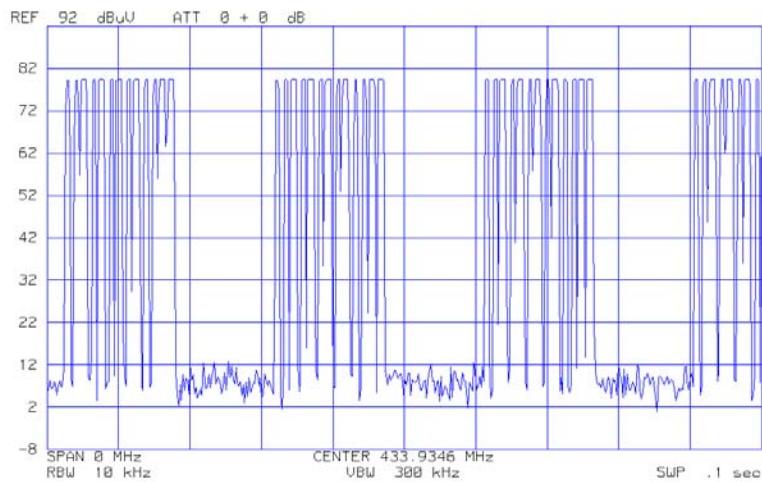
Total time on = 15 ms

$$\begin{aligned}\text{Duty cycle correction factor} &= 20 \log (15 \text{ ms} / 29.26 \text{ ms}) \\ &= 20 \log (0.51) \\ &= -5.8\end{aligned}$$

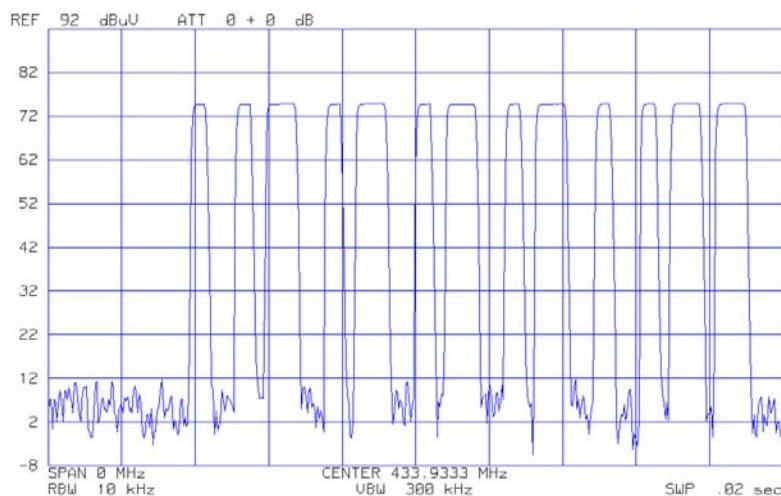
The correction factor is added to the measured field strength in dBuV/m

File Number: E236493  
Project Number: 03CA12998  
Model Number: TX-4C  
FCC ID: RB4058402

Issued: 7/16/2003



### Pulse Train



### Individual Pulses

File Number: E236493  
Project Number: 03CA12998  
Model Number: TX-4C  
FCC ID: RB4058402

Issued: 7/16/2003

### 3.0 SUMMARY:

The equipment under test has met the technical requirements as defined under section(s) 2.0 and 3.0.

Test Start Date: 27 May 2003

Test Completion Date: 29 May 2003

#### - UNDERWRITERS LABORATORIES, INC. -

Project Engineer



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Reviewer



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