ADDENDUM TO PHONIC EAR TEST REPORT FC04-025

FOR THE

CLASSROOM AMPLIFICATION SYSTEM, PE921T

FCC PART 95 AND RSS 210

COMPLIANCE

DATE OF ISSUE: APRIL 2, 2004

PREPARED FOR:

Phonic Ear
3880 Cypress Drive
Petaluma, CA 94954-7600

P.O. No.: P112518
W.O. No.: 81873

PREPARED BY:

Mary Ellen Clayton
CKC Laboratories, Inc.
5473A Clouds Rest
Mariposa, CA 95338

Date of test: February 19 – April 2, 2004

Report No.: FC04-025A

TABLE OF CONTENTS

ADMINISTRATIVE INFORMATION

DATE OF TEST:	February 19 – April 2, 2004
DATE OF RECEIPT:	February 19, 2004
PURPOSE OF TEST:	To demonstrate the compliance of the Classroom Amplification System, PE921T with the requirements for FCC Part 95 and RSS 210 devices. **Addendum A** is to add the Canadian matrix and Canadian spurious emissions OATS data and revise the FCC spurious emissions OATS data.
TEST METHOD:	FCC Part 95 TIA/EIA 603
FREQUENCY RANGE TESTED:	10 - 2200MHz
MANUFACTURER:	E-J Electronic Co. LTD 4F., No. 11, Lane 125, Sec. 1, Kuo Kwang Road, Ta-li City, Tachung Hsien, Taiwan
REPRESENTATIVE:	Lee Henderson
TEST LOCATION:	CKC Laboratories, Inc. 480 Los Viboras Road, Hollister, CA 95023 1120 Fulton Place, Fremont, CA 94539

SUMMARY OF RESULTS

As received, the Phonic Ear Classroom Amplification System, PE921T was found to be fully compliant with the following standards and specifications:

FCC Standard	FCC Section	Canadian Standard	Canadian Section	Test Description
47CFR	15.203	RSS 210	5.5	Antenna Connector Requirements
47CFR	95.629	RSS 210	6.2.2(L2)	Two Way Voice Prohibited
47CFR	95.637	RSS 210	6.2.2(L2)	Peak Output Power Requirements (100mW)
47CFR	95.1013	RSS 210	6.2.2(L2)	Peak Output Power Requirements FCC: 100mW ERP Canada: 160mW ERP
NA	NA	RSS 210	6.2.2(L2)	Canada Channel 13 Advisory
47CFR	95.633	RSS 210	6.2.2(L2)	Emission Bandwidth
47CFR	95.635	RSS 210	6.2.2(L2)	Emission Mask
NA	NA	RSS 210	6.2.2(L2)	Instrumentation for Mask (Peak 300Hz RBW)
47CFR	15.205	RSS 210	6.3	Restricted Bands of Operation
47CFR	15.215(c)	RSS 210	6.4	Frequency Stability Recommendation
47CFR	15.35(c)	RSS 210	6.5	Pulsed Operation
47CFR	15.207	RSS 210	6.6	AC Mains Conducted Emissions Requirement
TIA/EIA 603 Method				
FCC Site No. 90479 FCC Site No. 90477		Industry of Canada File No. IC 3171-B Industry of Canada File No. IC 3082-B		

CONDITIONS FOR COMPLIANCE

No modifications to the EUT were necessary to comply.

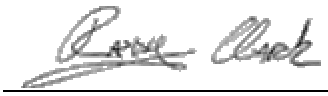
APPROVALS

Steve Behm, Director of Engineering Services

QUALITY ASSURANCE:

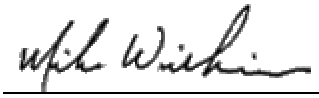
Joyce Walker, Quality Assurance Administrative Manager

TEST PERSONNEL:



Randy Clark, EMC Engineer

Matthew Pettersen, EMC Test Engineer



Mike Wilkinson, Lab Manager

EQUIPMENT UNDER TEST (EUT) DESCRIPTION

The EUT tested by CKC Laboratories was a production unit. The EUT is a Bodyworn Transmitter for classroom use.

EQUIPMENT UNDER TEST

Classroom Amplification System

Manuf: Phonic Ear, Inc.
Model: PE921T
Serial: L04 0001
FCC ID: pending

PERIPHERAL DEVICES

The EUT was not tested with peripheral devices.

MEASUREMENT UNCERTAINTY

TEST	HIGHEST UNCERTAINTY
Radiated Emissions	+/- 2.94 dB
Conducted Emissions	+/- 1.56 dB

Note: Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k=2. Statements of compliance are based on the nominal values only.

TEMPERATURE AND HUMIDITY DURING TESTING
The temperature during testing was within +15°C and + 35°C.
The relative humidity was between 20% and 75%.

FCC 2.1033(c)(3) USER'S MANUAL
The necessary information is contained in a separate document.

FCC 2.1033 (c)(4) TYPE OF EMISSIONS
40K6F3E

FCC 2.1033 (c)(5) FREQUENCY RANGE
Operates on Extra Band channels every 50kHz, with the center frequency starting at 216.025MHz and ending at 216.875MHz, excluding restricted bands at 216.450MHz & 216.500MHz. The device also does not use channel 49 at 216.425MHz and channel 50 at 216.475MHz.

FCC 2.1033 (c)(6) OPERATING POWER
13.49mWatts EIRP

FCC 2.1033 (c)(7) MAXIMUM POWER RATING
The maximum output power of this type transmitter 100mWatts.

FCC 2.1033 (c)(8) DC VOLTAGES
The unit's operating voltage is 2.0 to 3.1 Volts, and its power to be provided by two internal, AA replaceable rechargeable or primary batteries. Typical current draw with a 3 Volt input is < 100 mA. At the low battery warning of 2.1 Volts, the supply current rises to approximately 160 mA. The increase in current is due to the internal DC/DC power supply converter compensating for the low power supply voltage.

FCC 2.1033 (c)(9) TUNE-UP PROCEDURE
The necessary information is contained in a separate document.

FCC 2.1033(c)(10) SCHEMATICS AND CIRCUITRY DESCRIPTION
The necessary information is contained in a separate document.

FCC 2.1033(c)(11) LABEL AND PLACEMENT
The necessary information is contained in a separate document.

FCC 2.1033(c)(12) SUBMITTAL PHOTOS
The necessary information is contained in a separate document.

FCC 2.1033 (c)(13) MODULATION INFORMATION
The 921T does not employ data modulation.

FCC 2.1033(c)(14)/2.1046/95.637 - RF POWER OUTPUT - ANT

Test Location: CKC Laboratories, Inc. •1100 Fulton Place • Fremont, CA 94538 • 1-800-500-4EMC (4362)

Customer: **Phonic Ear**
Specification: **Phonic- PPO Ant**
Work Order #: **81873** Date: 02/19/2004
Test Type: **RF Power Output** Time: 12:06:20
Equipment: **Body Worn Transmitter** Sequence#: 2
Manufacturer: Phonic Ear, Inc. Tested By: Matthew Pettersen
Model: PE921T
S/N: L04 0001

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
S.A., HP-8596E	3346A00225	06/24/2002	06/24/2004	783
Signal Generator	2409A06553	10/30/2002	10/30/2004	508

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Body Worn Transmitter*	Phonic Ear, Inc.	PE921T	L04 0001

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is a body worn transmit only device that operates on the extra channel bands for Part 95. The EUT operates in the frequency range from 216.025MHz - 216.875MHz. The EUT operates in continuous mode only, and is FM modulated by a 50ohm signal generator injecting a 6kHz sine wave at 28mV RMS and transmits only analog data on the carrier. A manufacturer supplied test board is connected to the microphone port of the EUT. The RF out connector on the test fixture is connected to the spectrum analyzer. RF Power Output Frequency Range Investigated: Fundamental 216.875MHz, Channel 58. Output Ratings: All: 10mW. Spec limit: All: 100mW. RBW=100kHz, VBW=100kHz.

Transducer Legend:

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBµV	dB	dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	216.875M	113.6					+0.0	113.6	127.0	-13.4	None

Test Location: CKC Laboratories, Inc. •1100 Fulton Place • Fremont, CA 94538 • 1-800-500-4EMC (4362)

Customer: **Phonic Ear**
Specification: **Phonic- PPO Ant**
Work Order #: **81873** Date: 02/19/2004
Test Type: **RF Power Output** Time: 11:38:43
Equipment: **Body Worn Transmitter** Sequence#: 1
Manufacturer: Phonic Ear, Inc. Tested By: Matthew Pettersen
Model: PE921T
S/N: L04 0001

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
S.A., HP-8596E	3346A00225	06/24/2002	06/24/2004	783
Signal Generator	2409A06553	10/30/2002	10/30/2004	508

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Body Worn Transmitter*	Phonic Ear, Inc.	PE921T	L04 0001

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is a body worn transmit only device that operates on the extra channel bands for Part 95. The EUT operates in the frequency range from 216.025MHz - 216.875MHz. The EUT operates in continuous mode only, and is FM modulated by a 50ohm signal generator injecting a 6kHz sine wave at 28mV RMS and transmits only analog data on the carrier. A manufacturer supplied test board is connected to the microphone port of the EUT. The RF out connector on the test fixture is connected to the spectrum analyzer. RF Power Output Frequency Range Investigated: Fundamental 216.025MHz, Channel 41. Output Ratings: All: 10mW. Spec limit: All: 100mW. RBW=100kHz, VBW=100kHz.

Transducer Legend:

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBµV	dB	dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	216.025M	114.4					+0.0	114.4	127.0	-12.6	None

PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP

FCC 95.1013 - RF POWER OUTPUT - OATS

Test Location: CKC Laboratories, Inc. •1100 Fulton Place • Fremont, CA 94538 • 1-800-500-4EMC (4362)

Customer:	**Phonic Ear**		
Specification:	**Phonic- PPO OATS**		
Work Order #:	**81873**	Date:	02/23/2004
Test Type:	**RF Power Output**	Time:	10:19:45
Equipment:	**Body Worn Transmitter**	Sequence#:	6
Manufacturer:	Phonic Ear, Inc.	Tested By:	Matthew Pettersen
Model:	PE921T		
S/N:	L04 0001		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Ant., Bilog, Chase CBL6111C	2630	10/04/2002	10/04/2004	852
QP Adapter HP-85650A	2043A00188	10/08/2002	10/08/2004	1508
S.A., RF Section HP-8568B	2601A02378	03/11/2003	03/11/2005	1377
S.A., Display HP-85662A	2542A10641	03/11/2003	03/11/2005	1377
Cable, H-B 3M Rad., .01-1000MHz	rad_cab_3M_03_hol-b.01-1000MHz	08/04/2003	08/04/2005	0

Test Conditions: The EUT is a body worn, transmit only device that operates on the extra channel bands for part 95. The EUT operates in the frequency range from 216.025MHz - 216.875MHz. The EUT operates in continuous mode only, and is FM modulated and transmits only analog data on the carrier. A manufacturer-supplied microphone with headset is connected to the EUT.

Test Configuration:
The EUT was located on the OATS with a measuring antenna located at 3 meters.

Test Results

Frequency (MHz)	Power Output EIRP (milliWatts)	Power Output Limit (milliWatts)	Results
216.025	19.11	100	PASS
216.875	19.11	100	PASS

EIRP calculated using the following formula,

$$P = \frac{(E \cdot D)^2}{30 \cdot G}$$

Where E is the field strength in V/m, D is the test distance in meters and G is the numeric antenna gain.

PHOTOGRAPH SHOWING RADIATED EMISSIONS

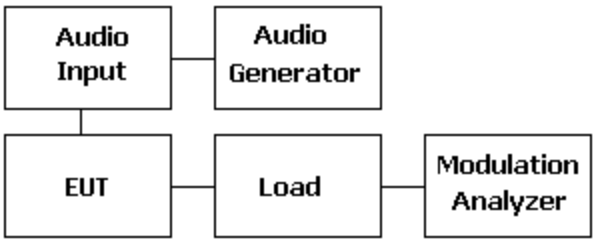
Radiated Emissions - Front View

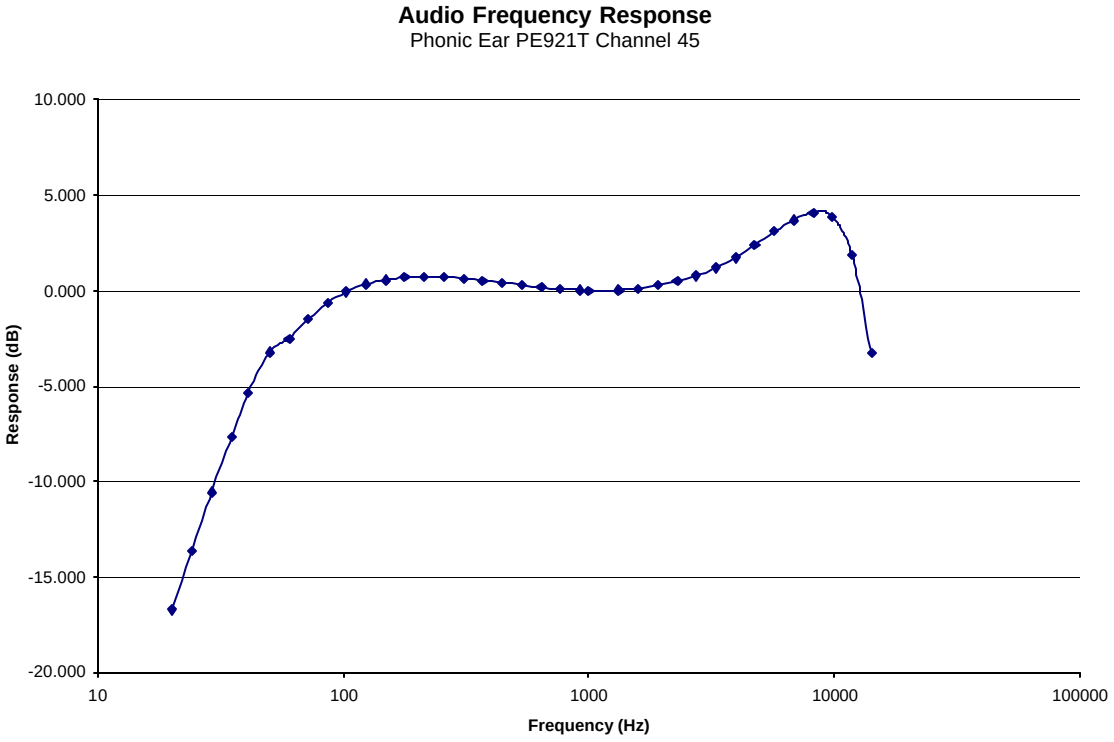
Radiated Emissions - Back View

FCC 2.1033(c)(14)/2.1047(a) - MODULATION CHARACTERISTICS - AUDIO FREQUENCY RESPONSE

Test Conditions: The test setup is in accordance with TIA/EIA 603 2.2.6.2.2 Constant Input Method. The EUT is functioning normally. EUT is powered by an external DC power source for consistency. The modulation limiting curve is plotted from 20Hz to 20kHz.

Audio Frequency Response Setup Diagram

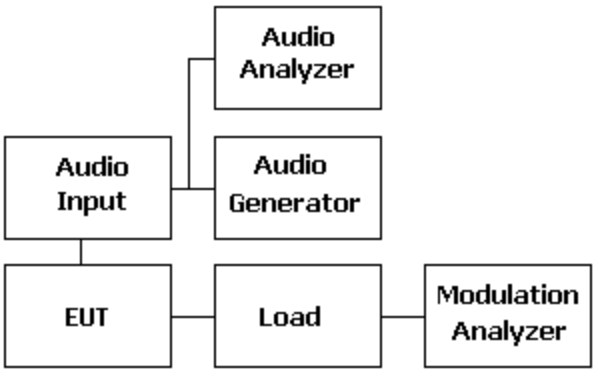


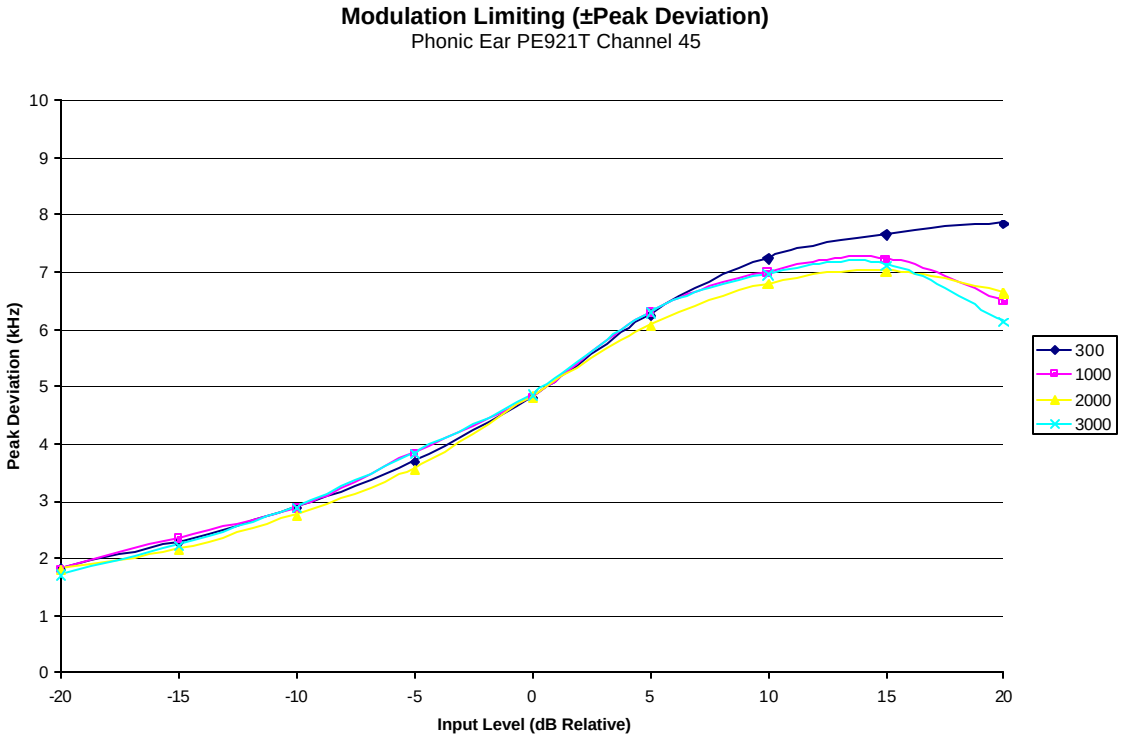


FCC 2.1033(c)(14)/2.1047(b) MODULATION CHARACTERISTICS - Modulation Limiting Response

Test Conditions: The test setup is in accordance with TIA/EIA 603. The EUT is functioning normally. EUT is powered by an external DC power source for consistency. A family of curves is plotted as a function of input modulation relative to 60% of the manufacturer's declared maximum system deviation. The frequencies chosen are 300Hz, 1kHz, 2kHz and 3kHz.

Modulation Limiting Setup





Test Equipment

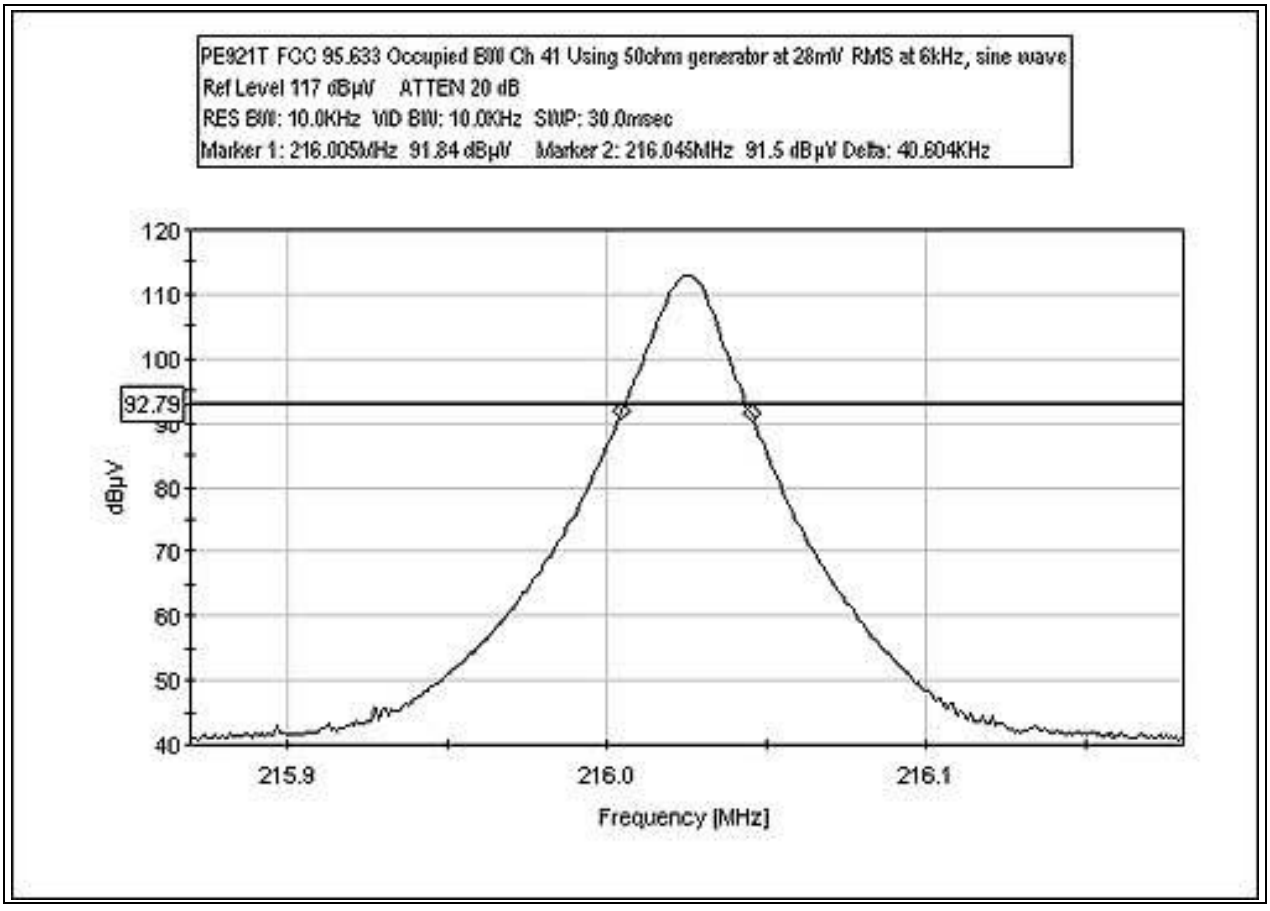
Description	*Asset #*	*Manufacturer*	*Model #*	*Serial #*	*Cal Date*	*Cal Due*
Analyzer, Audio	02338	HP	8903B	3011A09432	11/27/02	11/26/04
Analyzer, Modulation	02072	HP	8901A	2751A05181	11/27/02	11/26/04
Power Supply, DC	00762	HP	6205C	2228A01775	6/5/03	6/4/05

PHOTOGRAPH SHOWING AUDIO MODULATION TEST SETUP

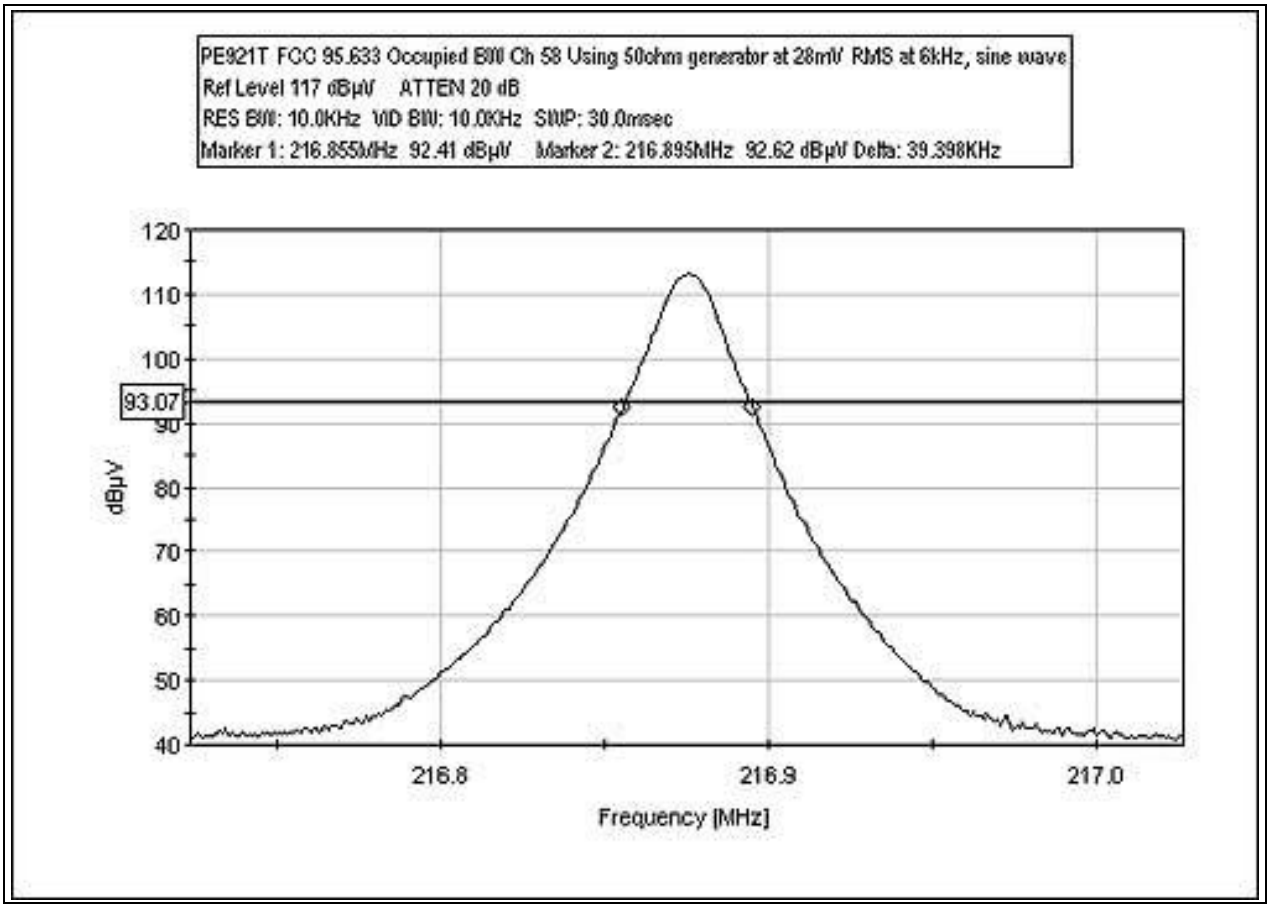
FCC 2.1033(c)(14)/2.1049(i)/95.633 - OCCUPIED BANDWIDTH

Test Conditions:
The EUT is a body worn, transmit only device that operates on the extra channel bands for Part 95. The EUT operates in the frequency range from 216.025MHz - 216.875MHz. The EUT operates in continuous mode only, and is FM modulated by a 50ohm-signal generator injecting a 6kHz sine wave at 28mV RMS and transmits only analog data on the carrier. A manufacturer supplied test board is connected to the microphone port of the EUT. The RF out connector on the test fixture is connected to the spectrum analyzer.

FCC 95.633 - OCCUPIED BANDWIDTH CHANNEL 41



FCC 95.633 - OCCUPIED BANDWIDTH CHANNEL 58



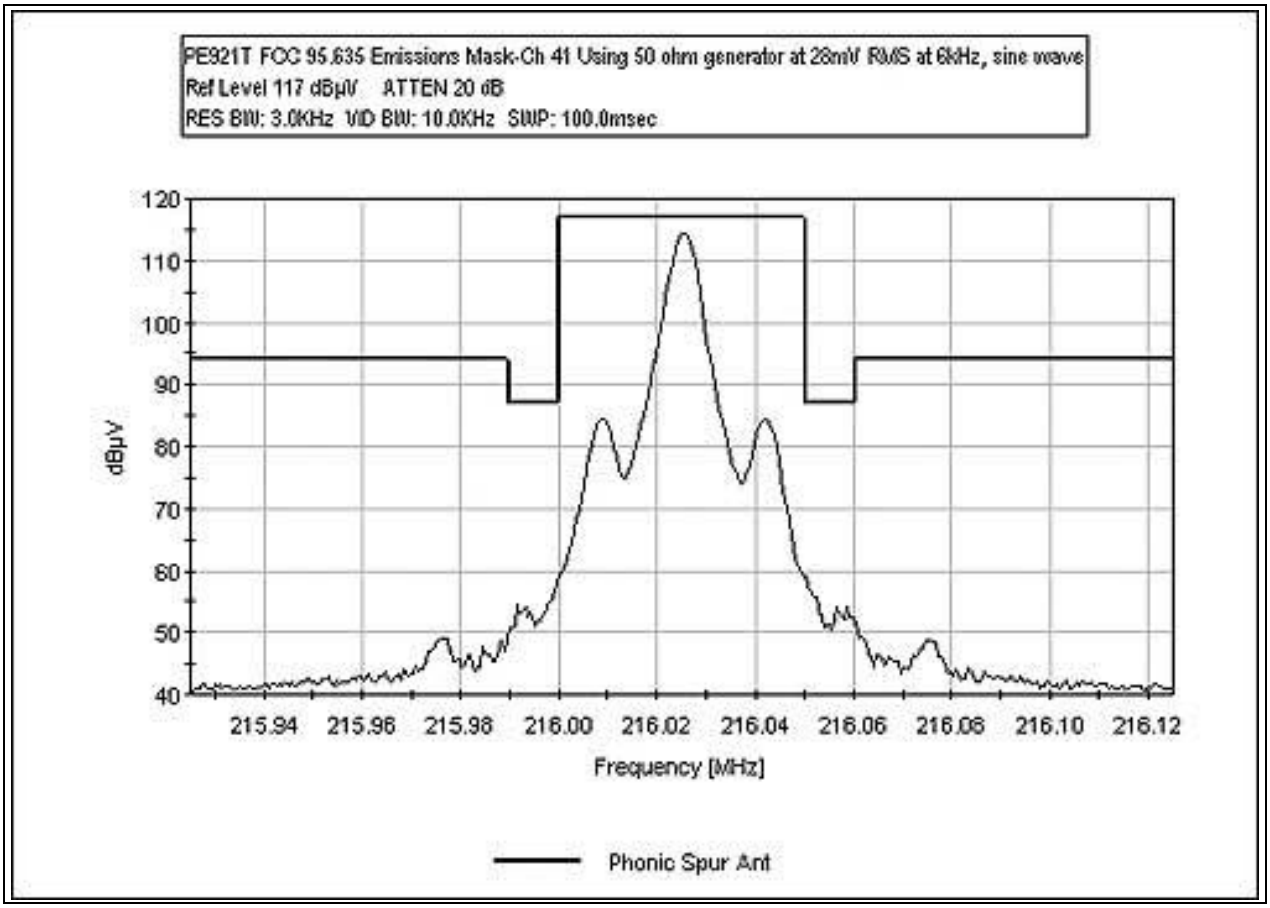
***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
S.A., HP-8596E	3346A00225	01/19/03	1/19/05	784

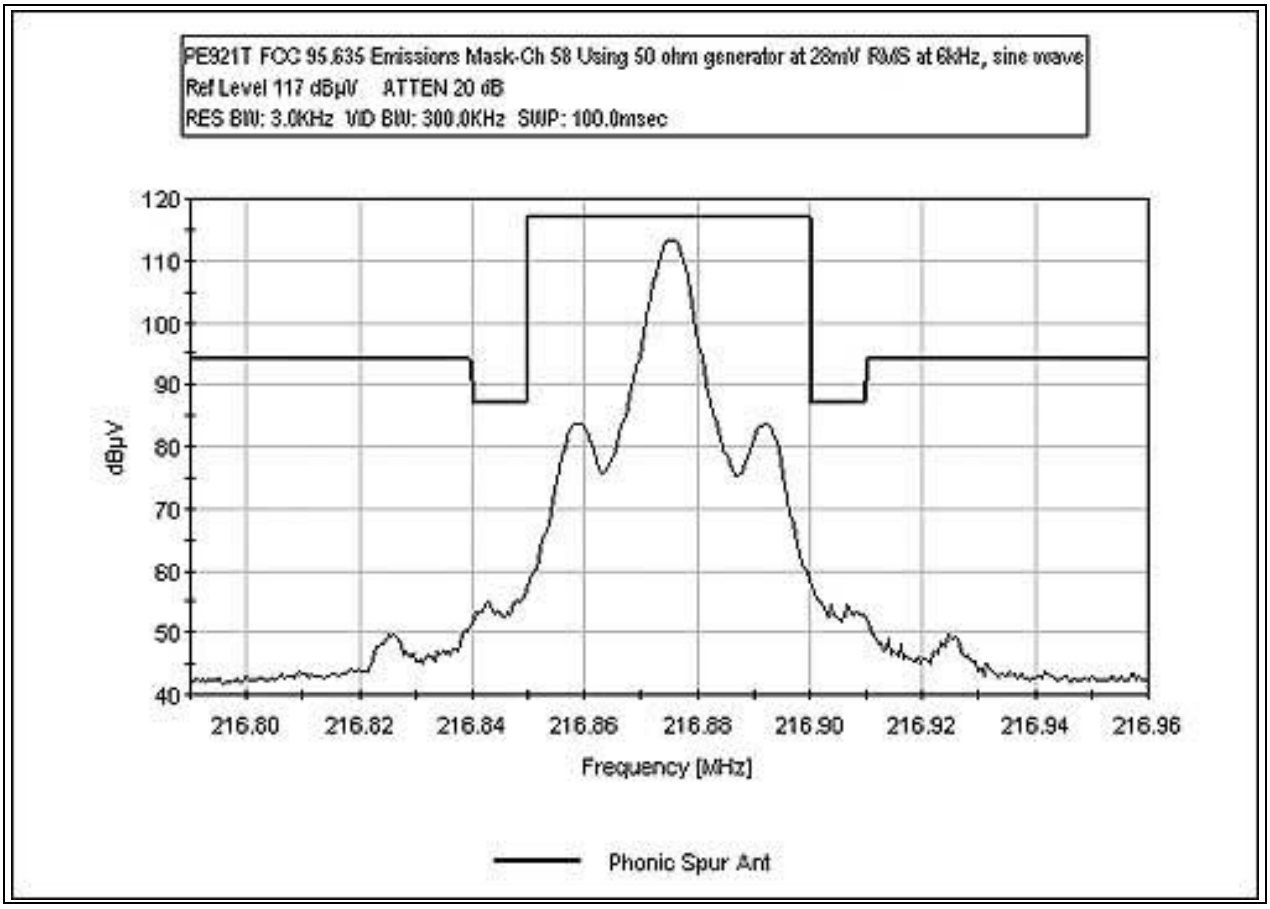
PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP

FCC 95.635 - EMISSIONS MASK CHANNEL 41

Test Conditions:
The EUT is a body worn, transmit only device that operates on the extra channel bands for Part 95. The EUT operates in the frequency range from 216.025MHz - 216.875MHz. The EUT operates in continuous mode only, and is FM modulated by a 50ohm-signal generator injecting a 6kHz sine wave at 28mV RMS and transmits only analog data on the carrier. A manufacturer supplied test board is connected to the microphone port of the EUT. The RF out connector on the test fixture is connected to the spectrum analyzer.



FCC 95.635 - EMISSIONS MASK CHANNEL 58



***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
S.A., HP-8596E	3346A00225	01/19/03	1/19/04	784

PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP

FCC 2.1033(c)(14)/2.1051/95.635(c) - SPURIOUS EMISSIONS AT ANTENNA TERMINAL

Test Location: CKC Laboratories, Inc. •1100 Fulton Place • Fremont, CA 94538 • 1-800-500-4EMC (4362)
Customer: **Phonic Ear**
Specification: **Phonic Spur Ant**
Work Order #: **81873** Date: 02/19/2004
Test Type: **Spurious Emissions** Time: 14:30:13
Equipment: **Body Worn Transmitter** Sequence#: 3
Manufacturer: Phonic Ear, Inc. Tested By: Matthew Pettersen
Model: PE921T
S/N: L04 0001

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
S.A., HP-8596E	3346A00225	06/24/2002	06/24/2004	783
Signal Generator	2409A06553	10/30/2002	10/30/2004	508

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Body Worn Transmitter*	Phonic Ear, Inc.	PE921T	L04 0001

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is a body worn transmit only device that operates on the extra channel bands for Part 95. The EUT operates in the frequency range from 216.025MHz - 216.875MHz. The EUT operates in continuous mode only, and is FM modulated by a 50ohm signal generator injecting a 6kHz sine wave at 28mV RMS and transmits only analog data on the carrier. A manufacturer supplied test board is connected to the microphone port of the EUT. The RF out connector on the test fixture is connected to the spectrum analyzer. Spurious emissions 10 - 2200MHz. RBW=100kHz, VBW=100kHz.

Transducer Legend:

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBµV	dB	dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	216.875M	103.0					+0.0	103.0	117.0 Fundamental	-14.0	None
2	674.932M	59.7					+0.0	59.7	94.0	-34.3	None
3	867.330M	56.5					+0.0	56.5	94.0	-37.5	None
4	1084.381M	56.5					+0.0	56.5	94.0	-37.5	None
5	603.486M	52.6					+0.0	52.6	94.0	-41.4	None
6	650.156M	51.3					+0.0	51.3	94.0	-42.7	None

7	2168.328M	51.2	+0.0	51.2	94.0	-42.8	None
8	679.542M	45.8	+0.0	45.8	94.0	-48.2	None
9	433.683M	45.5	+0.0	45.5	94.0	-48.5	None
10	1517.966M	44.7	+0.0	44.7	94.0	-49.3	None
11	187.374M	44.6	+0.0	44.6	94.0	-49.4	None
12	952.618M	43.7	+0.0	43.7	94.0	-50.3	None
13	1733.405M	43.6	+0.0	43.6	94.0	-50.4	None
14	199.325M	43.5	+0.0	43.5	94.0	-50.5	None
15	163.327M	43.0	+0.0	43.0	94.0	-51.0	None
16	882.729M	42.6	+0.0	42.6	94.0	-51.4	None
17	931.296M	42.3	+0.0	42.3	94.0	-51.7	None
18	937.811M	41.2	+0.0	41.2	94.0	-52.8	None
19	783.226M	41.0	+0.0	41.0	94.0	-53.0	None
20	607.519M	40.5	+0.0	40.5	94.0	-53.5	None
21	1300.741M	40.5	+0.0	40.5	94.0	-53.5	None
22	180.968M	40.2	+0.0	40.2	94.0	-53.8	None
23	1950.393M	40.0	+0.0	40.0	94.0	-54.0	None
24	543.562M	39.0	+0.0	39.0	94.0	-55.0	None
25	179.874M	38.9	+0.0	38.9	94.0	-55.1	None
26	191.880M	38.8	+0.0	38.8	94.0	-55.2	None
27	106.458M	38.3	+0.0	38.3	94.0	-55.7	None
28	105.790M	37.7	+0.0	37.7	94.0	-56.3	None
29	175.224M	37.6	+0.0	37.6	94.0	-56.4	None
30	700.861M	37.5	+0.0	37.5	94.0	-56.5	None

Test Location: CKC Laboratories, Inc. •1100 Fulton Place • Fremont, CA 94538 • 1-800-500-4EMC (4362)

Customer: **Phonic Ear**
Specification: **Phonic Spur Ant**
Work Order #: **81873** Date: 02/19/2004
Test Type: **Spurious Emissions** Time: 2:54:43 PM
Equipment: **Body Worn Transmitter** Sequence#: 5
Manufacturer: Phonic Ear, Inc. Tested By: Matthew Pettersen
Model: PE921T
S/N: L04 0001

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
S.A., HP-8596E	3346A00225	06/24/2002	06/24/2004	783
Signal Generator	2409A06553	10/30/2002	10/30/2004	508

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Body Worn Transmitter*	Phonic Ear, Inc.	PE921T	L04 0001

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is a body worn transmit only device that operates on the extra channel bands for Part 95. The EUT operates in the frequency range from 216.025MHz - 216.875MHz. The EUT operates in continuous mode only, and is FM modulated by a 50ohm signal generator injecting a 6kHz sine wave at 28mV RMS and transmits only analog data on the carrier. A manufacturer supplied test board is connected to the microphone port of the EUT. The RF out connector on the test fixture is connected to the spectrum analyzer. Spurious emissions 10 - 2200MHz. RBW=100kHz, VBW=100kHz.

Transducer Legend:

Measurement Data: Reading listed by margin. Test Distance: None

#	Freq MHz	Rdng dBµV	dB	dB	dB	dB	Dist Table	Corr dBµV	Spec dBµV	Margin dB	Polar Ant
1	216.025M	108.9					+0.0	108.9	117.0 Fundamental	-8.1	None
2	1080.053M	63.5					+0.0	63.5	94.0	-30.5	None
3	864.368M	58.5					+0.0	58.5	94.0	-35.5	None
4	674.932M	57.0					+0.0	57.0	94.0	-37.0	None
5	2160.226M	49.1					+0.0	49.1	94.0	-44.9	None
6	603.486M	47.9					+0.0	47.9	94.0	-46.1	None
7	158.131M	46.9					+0.0	46.9	94.0	-47.1	None

8	1727.205M	46.9	+0.0	46.9	94.0	-47.1	None
9	199.325M	46.7	+0.0	46.7	94.0	-47.3	None
10	647.852M	46.2	+0.0	46.2	94.0	-47.8	None
11	1511.766M	45.8	+0.0	45.8	94.0	-48.2	None
12	679.542M	45.6	+0.0	45.6	94.0	-48.4	None
13	432.075M	44.4	+0.0	44.4	94.0	-49.6	None
14	187.374M	42.1	+0.0	42.1	94.0	-51.9	None
15	1296.414M	40.8	+0.0	40.8	94.0	-53.2	None
16	882.729M	40.3	+0.0	40.3	94.0	-53.7	None
17	940.772M	40.3	+0.0	40.3	94.0	-53.7	None
18	180.147M	40.1	+0.0	40.1	94.0	-53.9	None
19	777.303M	40.1	+0.0	40.1	94.0	-53.9	None
20	783.226M	40.0	+0.0	40.0	94.0	-54.0	None
21	1944.194M	39.9	+0.0	39.9	94.0	-54.1	None
22	152.524M	39.7	+0.0	39.7	94.0	-54.3	None
23	105.694M	39.4	+0.0	39.4	94.0	-54.6	None
24	696.827M	39.2	+0.0	39.2	94.0	-54.8	None
25	98.536M	38.6	+0.0	38.6	94.0	-55.4	None
26	152.798M	38.1	+0.0	38.1	94.0	-55.9	None
27	106.458M	38.0	+0.0	38.0	94.0	-56.0	None
28	651.309M	37.9	+0.0	37.9	94.0	-56.1	None
29	892.205M	37.9	+0.0	37.9	94.0	-56.1	None
30	140.081M	37.5	+0.0	37.5	94.0	-56.5	None

PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP

FCC 2.1033(c)(14)/2.1053/95.635(c) - FIELD STRENGTH OF SPURIOUS RADIATION

Test Location: CKC Laboratories, Inc. •1100 Fulton Place • Fremont, CA 94538 • 1-800-500-4EMC (4362)

Customer:	**Phonic Ear**		
Specification:	**Pt 95.635 Spurious**		
Work Order #:	**81873**	Date:	04/02/2004
Test Type:	**Spurious Emissions**	Time:	12:58:37
Equipment:	**Body Worn Transmitter**	Sequence#:	8
Manufacturer:	Phonic Ear, Inc.	Tested By:	Matthew Pettersen
Model:	PE921T		
S/N:	L04 0001		

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Ant., Bilog, Chase CBL6111C	2630	10/04/2002	10/04/2004	852
QP Adapter HP-85650A	2043A00188	10/08/2002	10/08/2004	1508
S.A., RF Section HP-8568B	2601A02378	03/11/2003	03/11/2005	1377
S.A., Display HP-85662A	2542A10641	03/11/2003	03/11/2005	1377
Cable, H-B 3M Rad., .01-1000MHz	rad_cab_3M_03_hol-b.01-1000MHz	08/04/2003	08/04/2005	0

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Body Worn Transmitter*	Phonic Ear, Inc.	PE921T	L04 0001

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is a body worn, transmit only device that operates on the extra channel bands for part 95. The EUT operates in the frequency range from 216.025MHz - 216.875MHz. The EUT operates in continuous mode only, and is FM modulated and transmits only analog data on the carrier. A manufacturer-supplied microphone with headset is connected to the EUT. Spurious emissions 10 - 1000MHz.

Operating Frequency: 216.025MHz - 216.875MHz
Channels: 41 & 58 Low Frequency
Highest Measured Output Power: 12.81 EIRP(dBm)= 0.01911 EIRP(Watts)
Distance: 3 meters
Limit: 43+10Log(P) 25.81 dBc

Freq. (MHz)	Reference Level (dBm)	Antenna Polarity (H/V)	dBc
121.53	-13.8	Vert	26.61
144.01	-62.2	Vert	75.01
180.01	-58.4	Horiz	71.21
432.05	-50.7	Vert	63.51
432.05	-37.8	Horiz	50.61
648.07	-41.5	Horiz	54.31
648.07	-46.7	Vert	59.51
650.29	-50.7	Horiz	63.51
783.95	-49	Horiz	61.81
864.10	-43.7	Vert	56.51
433.74	-36.6	Horiz	49.41
650.61	-41.9	Horiz	54.71
867.49	-43.9	Vert	56.71
784.73	-44.9	Vert	57.71
650.64	-46.1	Vert	58.91
867.52	-46.3	Horiz	59.11
433.74	-47.6	Vert	60.41
679.73	-48.6	Vert	61.41
679.75	-49.1	Horiz	61.91
144.39	-60.5	Vert	73.31
144.39	-61.9	Horiz	74.71

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Phonic Ear**
Specification: **Pt 95.635 Spurious**
Work Order #: **81873** Date: 04/01/2004
Test Type: **Maximized Emissions** Time: 13:46:20
Equipment: **Body Worn Transmitter** Sequence#: 10
Manufacturer: Phonic Ear Tested By: Mike Wilkinson
Model: PE921T
S/N: 1800101

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA Display	2403A08241	02/26/2003	02/26/2005	00489
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
EMCO 3115 Horn Antenna	9006-3413	04/15/2003	04/25/2005	327
HP 8449B Preamp	3008A00301	10/21/2002	10/18/2004	2010

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Body Worn Transmitter*	Phonic Ear	PE921T	1800101

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is a body worn, transmit only device that operates on the extra channel bands for part 95. The EUT operates in the frequency range from 216.025MHz - 216.875MHz. The EUT operates in continuous mode only, and is FM modulated and transmits only analog data on the carrier. A manufacturer-supplied microphone with headset is connected to the EUT. Channel 41 and 58 selected. Spurious emissions 1.0- 2.2 GHz.

Operating Frequency: 216.025MHz - 216.875MHz
Channels: 41 & 58 High Frequency
Highest Measured Output Power: 12.81 EIRP(dBm)= 0.01911 EIRP(Watts)
Distance: 3 meters
Limit: 43+10Log(P) 25.81 dBc

Freq. (MHz)	Reference Level (dBm)	Antenna Polarity (H/V)	dBc
1,080.13	-52.6	Vert	65.41
1,728.16	-50.3	Vert	63.11
1,944.25	-46.9	Vert	59.71
2,160.26	-43.5	Vert	56.31
1,084.37	-52	Vert	64.81
1,301.22	-53.1	Vert	65.91
1,518.13	-51.2	Vert	64.01
1,735.02	-47.1	Vert	59.91
1,951.90	-49.1	Vert	61.91
2,168.74	-42.7	Vert	55.51

PHOTOGRAPH SHOWING RADIATED EMISSIONS

Radiated Emissions - Front View

Radiated Emissions - Back View

FCC 2.1033(c)(14)/2.1055(d)- FREQUENCY STABILITY

Test Conditions: EUT is functioning normally without modulation input. EUT is powered via external DC power supply. Frequency stability measurements under voltage variations are taken at the nominal operating voltage, voltage midpoint and battery end-point voltage. The RF output of the EUT is directly connected to the test equipment via a test fixture.

Customer: Phonic Ear
WO#: 81873
Date: 09-Mar-04
Test Engineer:

Device Model #: PE921T
Operating Voltage: 3 **VDC/VAC**
Frequency Limit: 50 **PPM/%**

Temperature Variations

Channel Frequency:		Channel 1 (MHz) 216.2246	Dev. (MHz)
Temp (C)	Voltage		
-30	3	216.22200	0.00260
-20	3	216.22300	0.00160
-10	3	216.22650	0.00190
0	3	216.22460	0.00000
10	3	216.22480	0.00020
20	3	216.22460	0.00000
30	3	216.22450	0.00010
40	3	216.22350	0.00110
50	3	216.22200	0.00260

Voltage Variations

20	3.0	216.22460	0.00000
20	2.5	216.22460	0.00000
20	1.8	216.22450	0.00010

Max Deviation (MHz)	**0.00260**
Max Deviation (PPM)	**12.02453**
	PASS

Test Equipment

Description	*Asset #*	*Manufacturer*	*Model #*	*Serial #*	*Cal Date*	*Cal Due*
Digital Multimeter	01241	Radio Shack	22-183	NA	NR	NR
Modulation Analyzer	2072	HP	8901A	2751A05181	11/27/02	11/27/04
Temp Chamber	01879	Thermotron	S-1.2 MiniMax	11899	1/31/03	1/31/05
Thermometer	02242	Omega	HH-26K	T-202884	8/15/03	8/14/05
Power Supply, DC	00765	Sorensen	DCR-60-30B	176	7/8/03	7/7/05

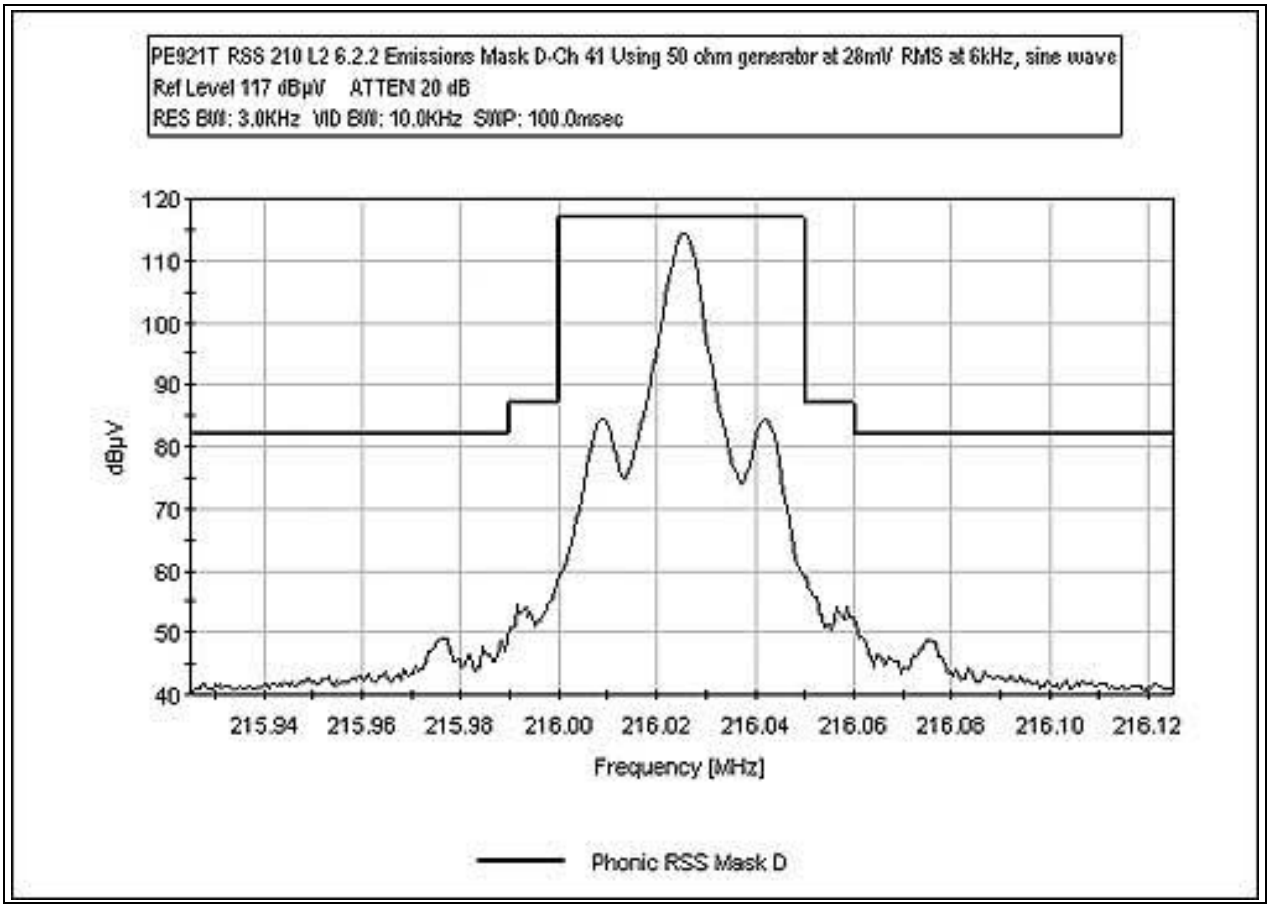
NR = Not Required

PHOTOGRAPH SHOWING TEMPERATURE TESTING

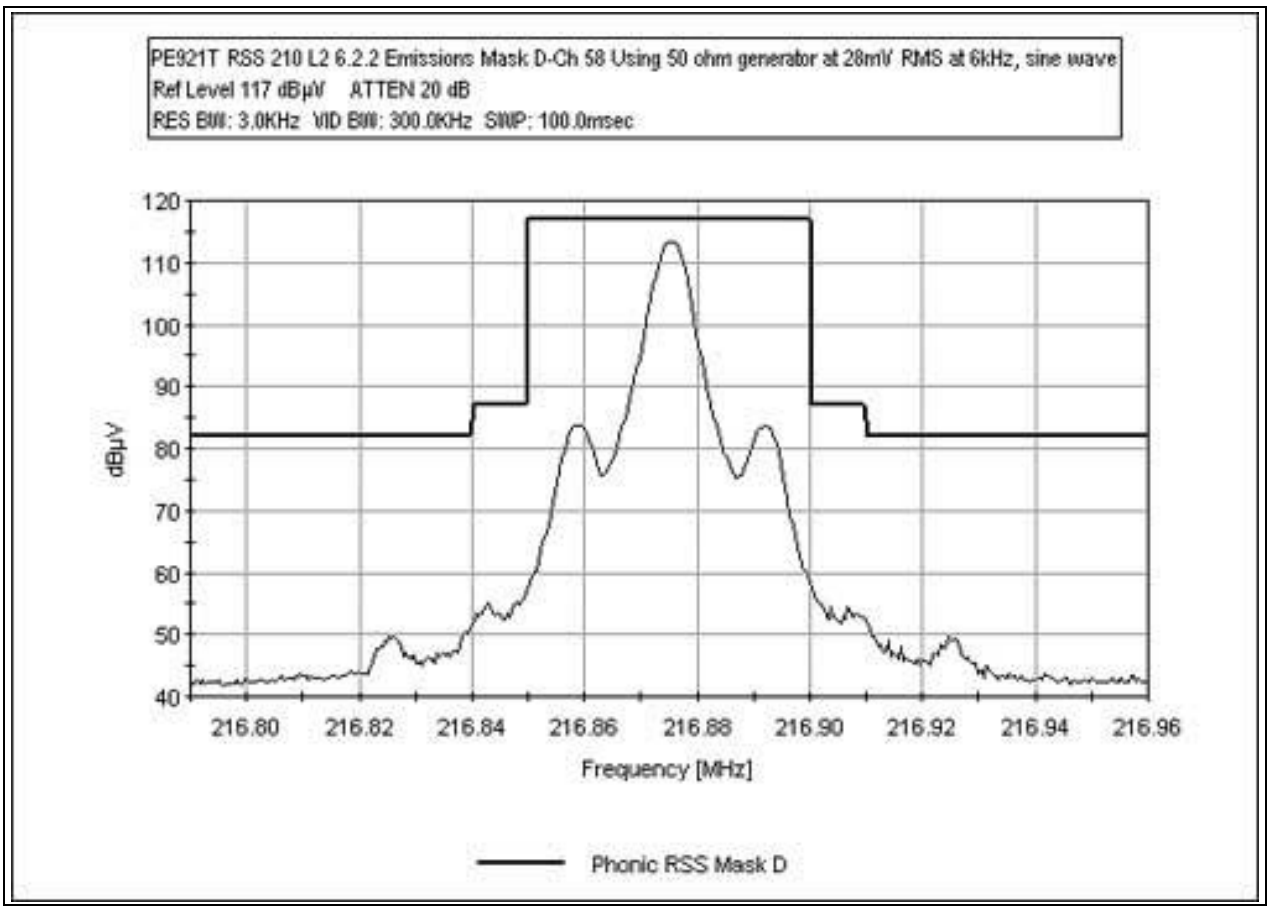
RSS 210 L2 6.2.2 - EMISSIONS MASK D CHANNEL 41

Test Conditions:

The EUT is a body worn, transmit only device that operates on the extra channel bands for part 95. The EUT operates in the frequency range from 216.025MHz - 216.875MHz. The EUT operates in continuous mode only, and is FM modulated by a 50ohm-signal generator injecting a 6kHz sine wave at 28mV RMS and transmits only analog data on the carrier. A manufacturer supplied test board is connected to the microphone port of the EUT. The RF out connector on the test fixture is connected to the spectrum analyzer.



RSS 210 L2 6.2.2 - EMISSIONS MASK D CHANNEL 58



***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
S.A., HP-8596E	3346A00225	01/19/03	1/19/04	784

PHOTOGRAPH SHOWING DIRECT CONNECT TEST SETUP

RSS 210 L2 6.2.2 - SPURIOUS EMISSIONS - OATS

Test Location: CKC Laboratories, Inc. •1100 Fulton Place • Fremont, CA 94538 • 1-800-500-4EMC (4362)

Customer: **Phonic Ear**
Specification: **Canada RSS 210 6.2.2(L2)**
Work Order #: **81873** Date: 02/23/2004
Test Type: **Spurious Emissions** Time: 15:23:06
Equipment: **Body Worn Transmitter** Sequence#: 8
Manufacturer: Phonic Ear, Inc. Tested By: Matthew Pettersen
Model: PE921T
S/N: L04 0001

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Ant., Bilog, Chase CBL6111C	2630	10/04/2002	10/04/2004	852
QP Adapter HP-85650A	2043A00188	10/08/2002	10/08/2004	1508
S.A., RF Section HP-8568B	2601A02378	03/11/2003	03/11/2005	1377
S.A., Display HP-85662A	2542A10641	03/11/2003	03/11/2005	1377
Cable, H-B 3M Rad., .01-1000MHz	rad_cab_3M_03_hol-b.01-1000MHz	08/04/2003	08/04/2005	0

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Body Worn Transmitter*	Phonic Ear, Inc.	PE921T	L04 0001

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is a body worn, transmit only device that operates on the extra channel bands for part 95. The EUT operates in the frequency range from 216.025MHz - 216.875MHz. The EUT operates in continuous mode only, and is FM modulated and transmits only analog data on the carrier. A manufacturer-supplied microphone with headset is connected to the EUT. Spurious emissions 10 - 2200MHz.

Transducer Legend:

T1=Chase bilog 2630	T2=H-B 3m Rad cable .01-1000MHz
T3=H-B 3 meter rad. cable 1-13.5 GHz	T4=Horn 1-18 GHz (Hollister)

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	432.047M	39.5	+16.5	+3.2			+10.0	69.2	82.0	-12.8	Horiz
2	648.069M	31.1	+20.4	+4.0			+10.0	65.5	82.0	-16.5	Horiz
3	864.097M	26.4	+22.6	+4.3			+10.0	63.3	82.0	-18.7	Vert
4	864.255M	24.8	+22.6	+4.3			+10.0	61.7	82.0	-20.3	Horiz
5	648.073M	25.9	+20.4	+4.0			+10.0	60.3	82.0	-21.7	Vert

6	783.951M	22.3	+21.6	+4.1	+10.0	58.0	82.0	-24.0	Horiz
7	432.046M	26.6	+16.5	+3.2	+10.0	56.3	82.0	-25.7	Vert
8	650.294M	21.9	+20.4	+4.0	+10.0	56.3	82.0	-25.7	Horiz
9	180.005M	27.3	+9.2	+2.1	+10.0	48.6	82.0	-33.4	Horiz
10	144.012M	21.7	+11.3	+1.8	+10.0	44.8	82.0	-37.2	Vert

Test Location: CKC Laboratories, Inc. •1100 Fulton Place • Fremont, CA 94538 • 1-800-500-4EMC (4362)

Customer: **Phonic Ear**
Specification: **Canada RSS 210 6.2.2(L2)**
Work Order #: **81873** Date: 02/23/2004
Test Type: **Spurious Emissions** Time: 15:35:29
Equipment: **Body Worn Transmitter** Sequence#: 7
Manufacturer: Phonic Ear, Inc. Tested By: Matthew Pettersen
Model: PE921T
S/N: L04 0001

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
Ant., Bilog, Chase CBL6111C	2630	10/04/2002	10/04/2004	852
QP Adapter HP-85650A	2043A00188	10/08/2002	10/08/2004	1508
S.A., RF Section HP-8568B	2601A02378	03/11/2003	03/11/2005	1377
S.A., Display HP-85662A	2542A10641	03/11/2003	03/11/2005	1377
Cable, H-B 3M Rad., .01-1000MHz	rad_cab_3M_03_hol-b.01-1000MHz	08/04/2003	08/04/2005	0

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Body Worn Transmitter*	Phonic Ear, Inc.	PE921T	L04 0001

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is a body worn, transmit only device that operates on the extra channel bands for part 95. The EUT operates in the frequency range from 216.025MHz - 216.875MHz. The EUT operates in continuous mode only, and is FM modulated and transmits only analog data on the carrier. A manufacturer-supplied microphone with headset is connected to the EUT. Spurious emissions 10 - 2200MHz.

Transducer Legend:

T1=Chase bilog 2630	T2=H-B 3m Rad cable .01-1000MHz
T3=H-B 3 meter rad. cable 1-13.5 GHz	T4=Horn 1-18 GHz (Hollister)

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	T4 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	433.737M	40.7	+16.5	+3.2			+10.0	70.4	82.0	-11.6	Horiz
2	650.613M	30.7	+20.4	+4.0			+10.0	65.1	82.0	-16.9	Horiz
3	867.491M	26.2	+22.6	+4.3			+10.0	63.1	82.0	-18.9	Vert
4	784.727M	26.4	+21.6	+4.1			+10.0	62.1	82.0	-19.9	Vert
5	650.637M	26.5	+20.4	+4.0			+10.0	60.9	82.0	-21.1	Vert

6	867.516M	23.8	+22.6	+4.3	+10.0	60.7	82.0	-21.3	Horiz
7	433.742M	29.7	+16.5	+3.2	+10.0	59.4	82.0	-22.6	Vert
8	679.730M	24.1	+20.4	+3.9	+10.0	58.4	82.0	-23.6	Vert
9	679.748M	23.6	+20.4	+3.9	+10.0	57.9	82.0	-24.1	Horiz
10	144.394M	23.4	+11.3	+1.8	+10.0	46.5	82.0	-35.5	Vert
11	144.389M	22.0	+11.3	+1.8	+10.0	45.1	82.0	-36.9	Horiz

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Phonic Ear**
Specification: **Canada RSS 210 6.2.2(L2)**
Work Order #: **81873** Date: 04/01/2004
Test Type: **Maximized Emissions** Time: 13:46:20
Equipment: **Body Worn Transmitter** Sequence#: 10
Manufacturer: Phonic Ear Tested By: Mike Wilkinson
Model: PE921T
S/N: 1800101

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA Display	2403A08241	02/26/2003	02/26/2005	00489
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
EMCO 3115 Horn Antenna	9006-3413	04/15/2003	04/25/2005	327
HP 8449B Preamp	3008A00301	10/21/2002	10/18/2004	2010

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Body Worn Transmitter*	Phonic Ear	PE921T	1800101

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is a body worn, transmit only device that operates on the extra channel bands for part 95. The EUT operates in the frequency range from 216.025MHz - 216.875MHz. The EUT operates in continuous mode only, and is FM modulated and transmits only analog data on the carrier. A manufacturer-supplied microphone with headset is connected to the EUT. Channel 41 selected. Spurious emissions 1.0- 2.2 GHz.

Transducer Legend:

T1=Amp - S/N 301	T2=Horn AN 00327 1-18GHz
T3=Cable HF P01527	T4=Cable 35' Blue SMA CKC P1352
T5=Cable HF-004-50	

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	2160.260M	51.3	-35.1 +4.5	+27.6	+0.4	+4.8	+10.0	63.5	82.0	-18.5	Vert
2	1944.252M	49.1	-35.2 +4.3	+27.0	+0.4	+4.5	+10.0	60.1	82.0	-21.9	Vert
3	1728.162M	47.5	-35.4 +4.0	+26.0	+0.3	+4.3	+10.0	56.7	82.0	-25.3	Vert
4	1080.126M	49.6	-36.1 +3.1	+24.3	+0.2	+3.3	+10.0	54.4	82.0	-27.6	Vert

Test Location: CKC Laboratories •5473A Clouds Rest • Mariposa, CA 95338 • 1-800-500-4EMC (4362)

Customer: **Phonic Ear**
Specification: **Canada RSS 210 6.2.2(L2)**
Work Order #: **81873** Date: 04/01/2004
Test Type: **Maximized Emissions** Time: 14:16:58
Equipment: **Body Worn Transmitter** Sequence#: 11
Manufacturer: Phonic Ear Tested By: Mike Wilkinson
Model: PE921T
S/N: 1800101

***Test Equipment*:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B SA	2209A01404	02/26/2003	02/26/2005	00490
HP 8566B SA Display	2403A08241	02/26/2003	02/26/2005	00489
HP 85650A QPA	2811A01267	02/26/2003	02/26/2005	00478
EMCO 3115 Horn Antenna	9006-3413	04/15/2003	04/25/2005	327
HP 8449B Preamp	3008A00301	10/21/2002	10/18/2004	2010

***Equipment Under Test* (* = EUT):**

Function	Manufacturer	Model #	S/N
Body Worn Transmitter*	Phonic Ear	PE921T	1800101

Support Devices:

Function	Manufacturer	Model #	S/N

Test Conditions / Notes:

The EUT is a body worn, transmit only device that operates on the extra channel bands for part 95. The EUT operates in the frequency range from 216.025MHz - 216.875MHz. The EUT operates in continuous mode only, and is FM modulated and transmits only analog data on the carrier. A manufacturer-supplied microphone with headset is connected to the EUT. Channel 58 selected. Spurious emissions 1.0- 2.2 GHz.

Transducer Legend:

T1=Amp - S/N 301 T2=Horn AN 00327 1-18GHz
T3=Cable HF P01527 T4=Cable 35' Blue SMA CKC P1352
T5=Cable HF-004-50

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

#	Freq	Rdng	T1 T5	T2	T3	T4	Dist	Corr	Spec	Margin	Polar
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant
1	2168.738M	51.9	-35.1 +4.5	+27.7	+0.4	+4.9	+10.0	64.3	82.0	-17.7	Vert
2	1735.020M	50.4	-35.3 +4.1	+26.1	+0.3	+4.3	+10.0	59.9	82.0	-22.1	Vert
3	1951.896M	46.9	-35.2 +4.3	+27.0	+0.4	+4.5	+10.0	57.9	82.0	-24.1	Vert
4	1518.130M	48.3	-35.5 +3.7	+25.0	+0.3	+4.0	+10.0	55.8	82.0	-26.2	Vert
5	1084.370M	50.2	-36.1 +3.1	+24.3	+0.2	+3.3	+10.0	55.0	82.0	-27.0	Vert
6	1301.224M	47.4	-35.7 +3.5	+24.7	+0.3	+3.7	+10.0	53.9	82.0	-28.1	Vert

PHOTOGRAPH SHOWING RADIATED EMISSIONS

Radiated Emissions - Front View

Radiated Emissions - Back View