



### VITALCOM, INC. ADDENDUM TO FC01-035

### FOR THE

### **AMBULATORY TRANSCEIVER, DT-4500**

# FCC PART 95 SUBPART H & FCC PART 15 SUBPART C SECTION 15.209

### **COMPLIANCE**

DATE OF ISSUE: JUNE 5, 2001

PREPARED FOR:

PREPARED BY:

VitalCom, Inc. 15222 Del Amo Avenue Tustin, CA 92780 Joyce Walker CKC Laboratories, Inc. 5473A Clouds Rest Mariposa, CA 95338

P.O. No.: 3008 W.O. No.: 76248 Date of test: April 18-May 11, 2001

Report No.: FC01-035A

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Low Channel – 1-10 GHz – Z Axis	
Mid Channel – 1-10 GHz – X Axis	
Mid Channel – 1-10 GHz – Y Axis	
Mid Channel – 1-10 GHz – Z Axis	
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CKC Laboratories, Inc. has received Certificates of Accreditation from the following agencies:

A2LA (USA); DATech (Germany); BSMI (Taiwan); Nemko (Norway); and GOST (Russia).

CKC Laboratories, Inc has received test site Registration Acceptance from the following agencies:

FCC (USA); VCCI (Japan); and Industry Canada.

CKC Laboratories, Inc. has received Letters of Acceptance through an MRA for the following agencies:

ACA/NATA (Australia); SABS (South Africa); SWEDAC (Sweden); Radio Communications Agency (RA); HOKLAS (Hong Kong); Bakom (Swiss); BIPT (Belgium); Denmark Telestyrelsen; RvA (Netherlands); SEE (Luxembourg) SITTEL (Bolivia); and UKAS (UK).

### ADMINISTRATIVE INFORMATION

**DATE OF TEST:** April 18-May 11, 2001

**DATE OF RECEIPT:** April 18, 2001

**PURPOSE OF TEST:** To demonstrate the compliance of the Ambulatory

Transceiver, DT-4500 with the requirements for FCC Part 95 Subpart H and FCC Part 15 Subpart C

Section 15.209 devices.

The addendum is to correct 2.1033(c)(6) & (7) and

to add 2.1033 (4)(8) & (9)

**TEST METHOD:** FCC Part 95, ANSI C63.4 (1992)

MANUFACTURER: VitalCom, Inc.

15222 Del Amo Avenue

**Tustin, CA 92780** 

**REPRESENTATIVE:** Gus Testa

**TEST LOCATION:** CKC Laboratories, Inc.

110 Olinda Place Brea, CA 92621

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### **SUMMARY OF RESULTS**

As received, the VitalCom, Inc. Ambulatory Transceiver, DT-4500 was found to be fully compliant with the following standards and specifications:

- <u>United States</u>
  ➤ FCC Part 95 Subpart H
- > FCC Part 15 Subpart C Section 15.209

The results in this report apply only to the items tested, as identified herein.

## MODIFICATIONS REQUIRED FOR COMPLIANCE

No modifications to the EUT were necessary for compliance.

### **APPROVALS**

QUALITY ASSURANCE:	TEST PERSONNEL:
Dennis Ward	SHYdt
Dennis Ward, Quality Manager	Stuart Yamamoto, EMC Engineer
Sal	
Septimiu Apahidean, EMC/Lab Manager	

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### **EQUIPMENT UNDER TEST (EUT) DESCRIPTION**

The EUT tested by CKC Laboratories was a production unit. ECG Transceiver.

### **EQUIPMENT UNDER TEST**

### **Ambulatory Transceiver**

Manuf: VitalCom, Inc. Model: DT-4500

Serial: 006003 (ID# 156)

FCC ID: BQI01DT-4500 (Pending)

### PERIPHERAL DEVICES

The EUT was tested with the following peripheral device(s):

<u>Test Box</u> <u>Computer</u>

Manuf: VitalCom, Inc. Manuf: Compaq Model: NA Model: Contura

Serial: NA Serial: 7530HPE52263 FCC ID: NA FCC ID: CNT75MB2CC

### TEMPERATURE AND HUMIDITY DURING TESTING

The temperature during testing was within  $+15^{\circ}$ C and  $+35^{\circ}$ C.

The relative humidity was between 20% and 75%.

### FREQUENCY RANGE TESTED

Radiated Emissions: 7 MHz – 10 GHz

### **2.1033(c)(4) Type of Emission**

230KF7D

### 2.1033(c)(5) FREQUENCY RANGE

608 MHz - 614 MHz.

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## 2.1033(c)(6) OPERATING POWER

0.000354 watts

## 2.1033(c)(7) MAXIMUM POWER RATING

0.000798 watts.

## **2.1033(c)(8) DC VOLTAGES**

Not applicable.

## 2.1033(c)(9) TUNE-UP PROCEDURE

Not applicable.

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### 2.1046/95.115(a)(1) RF POWER OUTPUT

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(a)(1) Fundamental Frequency Field Strength

Work Order #: 76248 Date: 04/19/2001 Time: 11:19:24 Test Type: **Maximized Emissions** Sequence#: 1

Equipment: Ambulatory ECG Transceiver

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500 S/N: 006003

Test Equipment Used - rf Power Output

	- <b>J</b> = + 11 + 1	<sub>F</sub>				
Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer	02462	HP	8568B	2928A04874	032901	032902
QP Adapter	02325	HP	85650A	2521A00932	032901	032902
Bilog Antenna	00851	Schaffner- Chase EMC	CBL6111C	2629	090500	090501
Pre-amp	02320	HP	8447D	2443A03665	020601	020602
Antenna cable (3 meter site D)	NA	Andrew	LDF1-50	Cable#20	091500	091501
Antenna extension cable HF (70ft)	NA	Andrew	LDF1-50	Cable#18	091500	091501

Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N	
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003	
Transceiver*				

Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. The EUT has five lead wires coming from it which are connected to Electrodes. Voltage to EUT supplied by 9 VDC internal battery. 17°C 45% 100kPa

Measu	rement Data:	R	eading lis	sted by ma	argin.		Τe	est Distance	e: 3 Meters	1	
			Cable	Bilog							
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	608.682M	80.8	+1.5	+20.2			+0.0	102.5	106.0	-3.5	Horiz
									Y axis		
2	612.918M	78.5	+1.5	+20.4			+0.0	100.4	106.0	-5.6	Vert
									Y axis		
3	608.682M	78.4	+1.5	+20.2			+0.0	100.1	106.0	-5.9	Vert
									Z axis		
4	612.913M	78.2	+1.5	+20.4			+0.0	100.1	106.0	-5.9	Horiz
									Y axis		

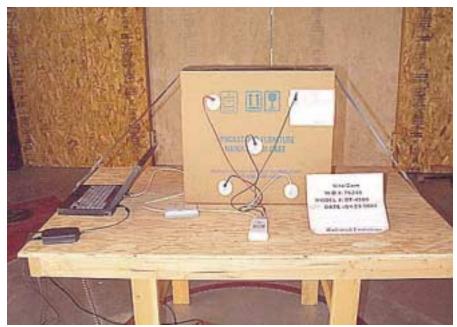
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5	612.914M	77.7	+1.5	+20.4	+0.0 99.6 106.0 -6.4 Horiz
					X axis
6	611.275M	77.6	+1.5	+20.3	+0.0 99.4 106.0 -6.6 Horiz
					X axis
7	612.913M	77.3	+1.5	+20.4	+0.0 99.2 106.0 -6.8 Vert
					Z axis
8	608.683M	77.4	+1.5	+20.2	+0.0 99.1 106.0 -6.9 Vert
					Y axis
9	608.682M	77.4	+1.5	+20.2	+0.0 99.1 106.0 -6.9 Horiz
					Z axis
10	611.276M	76.8	+1.5	+20.3	+0.0 98.6 106.0 -7.4 Vert
					Z axis
11	612.916M	76.5	+1.5	+20.4	+0.0 98.4 106.0 -7.6 Horiz
					Z axis
12	608.686M	76.4	+1.5	+20.2	+0.0 98.1 106.0 -7.9 Vert
					X axis
13	611.279M	76.0	+1.5	+20.3	+0.0 97.8 106.0 -8.2 Vert
					Y axis
14	612.914M	75.0	+1.5	+20.4	+0.0 96.9 106.0 -9.1 Vert
					X axis
15	608.684M	74.7	+1.5	+20.2	+0.0 96.4 106.0 -9.6 Horiz
					X axis
16	611.279M	73.9	+1.5	+20.3	+0.0 95.7 106.0 -10.3 Horiz
					Y axis
17	611.275M	73.0	+1.5	+20.3	+0.0 94.8 106.0 -11.2 Vert
1.0	514 2003 5	<b>50.</b>		20.6	X axis
18	611.280M	70.5	+1.5	+20.3	+0.0 92.3 106.0 -13.7 Horiz
					Z axis

ANALYZER BANDWIDTH SETTINGS DURING 2.1046/95.1115(a)(1) TESTING							
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING				
RADIATED EMISSIONS	30 MHz	1000 MHz	120 kHz				

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## TEST SETUP PHOTOGRAPHS – RF POWER OUTPUT



Front View



Back View

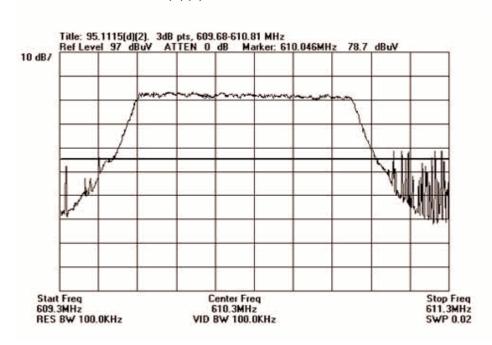
## 2.1047 MODULATION CHARACTERISTICS

Not applicable.

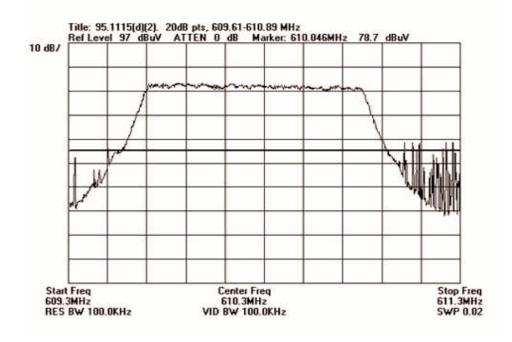
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### 2.1049/95.1115(d)(2) CHANNEL USE 608-614 MHz

## 95.1115(d)(2) 3 dB BANDWIDTH PLOT

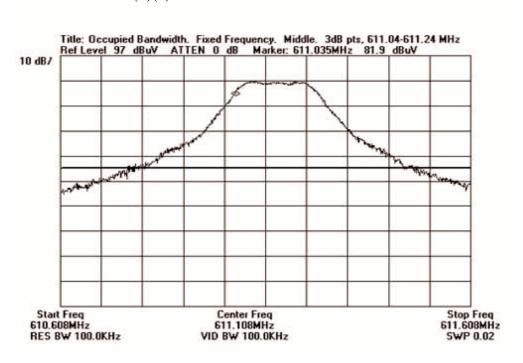


## 95.1115(d)(2) 20 dB BANDWIDTH PLOT

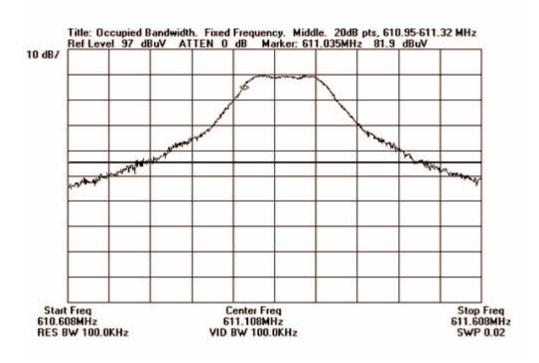


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## 95.1115(d)(2) 3 dB OCCUPIED BANDWIDTH PLOT



## 95.1115(d)(2) 20 dB OCCUPIED BANDWIDTH PLOT



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### TEST CONDITIONS – OCCUPIED BANDWIDTH

Channel Use Test FHSS per 95.1115(d)(2) 100 kHz bandwidth. Took measurements and plots for both 3 dB point and 20 dB point. Took measurements and plots with EUT set at 1.5 MHz bands.

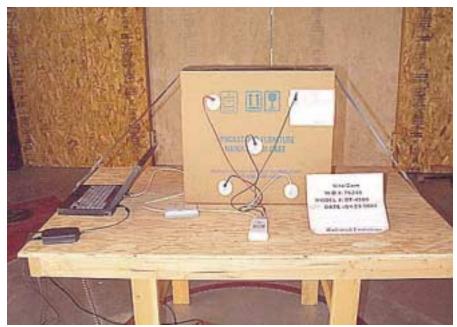
## TEST EQUIPMENT USED - CHANNEL USE 608-614 MHz

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer	02462	HP	8568B	2928A04874	032901	032902
QP Adapter	02325	HP	85650A	2521A00932	032901	032902
Bilog Antenna	00851	Schaffner- Chase EMC	CBL6111C	2629	090500	090501
Pre-amp	02320	HP	8447D	2443A03665	020601	020602
Antenna cable (3 meter site D)	NA	Andrew	LDF1-50	Cable#20	091500	091501
Antenna extension cable HF (70ft)	NA	Andrew	LDF1-50	Cable#18	091500	091501

ANALYZER BANDWIDTH SETTINGS DURING 2.1049/95.1115(d)(2) TESTING							
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING				
RADIATED EMISSIONS	608 MHz	614 MHz	120 kHz				

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## TEST SETUP PHOTOGRAPHS - CHANNEL USE 608-614 MHz



Front View



Back View

### 2.1051/95.1115(b)(1) & (2) SPURIOUS EMISSIONS AT ANTENNA TERMINAL

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom

Specification:

Work Order #: 76248 Date: 05/11/2001
Test Type: Maximized Emissions Time: 14:37:36
Equipment: Ambulatory ECG Transceiver Sequence#: 29

Manufacturer: VitalCom Tested By: Stuart Yamamoto

Model: DT-4500 S/N: 006003

Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N	
Ambulatory ECG	VitalCom	DT-4500	006003	
Transceiver*				

### Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom		

### Test Conditions / Notes:

The EUT along with the support equipment are located on the non conductive tabletop. The EUT's serial port is connected a Test Box which is connected to laptop PC via shielded serial cable. The antenna/ECG leadset port of the EUT has a short custom made coaxial cable connected to it. This cable was specifically designed for the antenna terminal tests and has a BNC connector for direct connection to the spectrum analyzer. Voltage to EUT supplied by 9 Vdc internal battery. Temperature: 20°C, Humidity: 35%, Pressure: 100kPa. Antenna Terminal Testing. Data below is for the fundamental frequency of the EUT when set at the low, mid, and high channels. **Note: There is no limit line for this test. Margin reading is corrected amplitude reading in dBuV.** 

Measurement Data:		Reading listed by margin.		Test Distance: None	
#	Freq MHz	Rdng dBµV	DC Bl dB	Dist Table	Corr dBμV
	1 608.676M Low Channel, Fundamental Frequency	114.7	+0.8	+0.0	115.5
	2 612.907M High Channel, Fundamental Frequency	114.6	+0.8	+0.0	115.4
	3 611.266M Mid Channel, Fundamental Frequency	114.6	+0.8	+0.0	115.4

Page 16 of 84 Report No.: FC01-035A Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom

Specification:

Work Order #: 76248 Date: 05/11/2001
Test Type: Maximized Emissions Time: 15:23:45
Equipment: Ambulatory ECG Transceiver Sequence#: 30

Manufacturer: VitalCom Tested By: Stuart Yamamoto

Model: DT-4500 S/N: 006003

Equipment Under Test (\* = EUT):

1 1	- /-			
Function	Manufacturer	Model #	S/N	
Ambulatory ECG	VitalCom	DT-4500	006003	
Transceiver*				

### Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom		

### Test Conditions / Notes:

The EUT along with the support equipment are located on the non conductive tabletop. The EUT's serial port is connected a Test Box which is connected to laptop PC via shielded serial cable. The antenna/ECG leadset port of the EUT has a short custom made coaxial cable connected to it. This cable was specifically designed for the antenna terminal tests and has a BNC connector for direct connection to the spectrum analyzer. Voltage to EUT supplied by 9 Vdc internal battery. Temperature: 20°C, Humidity: 35%, Pressure: 100kPa. Antenna Terminal Testing. Frequency range is 7 MHz - 10 GHz. Data below is for the spurious emissions of the EUT when set at the low channel. **Note:** There is no limit line for this test. Margin reading is corrected amplitude reading in dBuV.

Measureme	ent Data: Reading listed b	y margin.	Test Dist	ance: None	
#	Freq MHz	Rdng dBµV	DC Bl dB	Dist Table	Corr dBµV
1	1217.293M	60.0	+0.8	+0.0	60.8
2	535.205M	55.3	+0.8	+0.0	56.1
3	461.743M	54.4	+0.8	+0.0	55.2
4	367.321M	54.4	+0.8	+0.0	55.2
5	601.023M	54.1	+0.8	+0.0	54.9
6	616.246M	53.4	+0.8	+0.0	54.2
7	1825.963M	52.6	+0.8	+0.0	53.4

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8	125.910M	52.5	+0.8	+0.0	53.3
9	1951.009M	52.1	+0.8	+0.0	52.9
10	440.714M	52.1	+0.8	+0.0	52.9
11	75.530M	51.6	+0.8	+0.0	52.4
12	388.353M	51.5	+0.8	+0.0	52.3
13	293.731M	51.5	+0.8	+0.0	52.3
14	314.870M	51.4	+0.8	+0.0	52.2
15	682.078M	51.3	+0.8	+0.0	52.1
16	514.191M	51.2	+0.8	+0.0	52.0
17	571.756M	50.8	+0.8	+0.0	51.6
18	2434.795M	50.7	+0.8	+0.0	51.5
19	755.564M	50.7	+0.8	+0.0	51.5

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom

Specification:

Work Order #: 76248 Date: 05/11/2001
Test Type: Maximized Emissions Time: 15:52:20
Equipment: Ambulatory ECG Transceiver Sequence#: 31

Manufacturer: VitalCom Tested By: Stuart Yamamoto

Model: DT-4500 S/N: 006003

Equipment Under Test (\* = EUT):

1 1	- /-			
Function	Manufacturer	Model #	S/N	
Ambulatory ECG	VitalCom	DT-4500	006003	
Transceiver*				

### Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom		

#### Test Conditions / Notes:

The EUT along with the support equipment are located on the non conductive tabletop. The EUT's serial port is connected a Test Box which is connected to laptop PC via shielded serial cable. The antenna/ECG leadset port of the EUT has a short custom made coaxial cable connected to it. This cable was specifically designed for the antenna terminal tests and has a BNC connector for direct connection to the spectrum analyzer. Voltage to EUT supplied by 9 Vdc internal battery. Temperature: 20°C, Humidity: 35%, Pressure: 100kPa. Antenna Terminal Testing. Frequency range is 7 MHz - 10 GHz. Data below is for the spurious emissions of the EUT when set at the mid channel. **Note:** There is no limit line for this test. Margin reading is corrected amplitude reading in dBuV.

Measurement Data:	Reading listed by 1	nargin.	Test Distan	ce: None	
			DC B1		
#	Freq	Rdng		Dist	Corr
	MHz	dΒμV	dB	Table	dΒμV
1	464.343M	54.9	+0.8	+0.0	55.7
2	1222.480M	54.1	+0.8	+0.0	54.9
3	537.847M	53.8	+0.8	+0.0	54.6
4	125.823M	53.0	+0.8	+0.0	53.8
5	75.577M	51.9	+0.8	+0.0	52.7
6	567.275M	51.2	+0.8	+0.0	52.0
7	1951.104M	51.0	+0.8	+0.0	51.8
8	758.073M	51.0	+0.8	+0.0	51.8

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9	1833.825M	50.9	+0.8	+0.0	51.7
10	317.413M	50.5	+0.8	+0.0	51.3
11	2445.565M	50.5	+0.8	+0.0	51.3
12	571.546M	50.2	+0.8	+0.0	51.0

Page 20 of 84 Report No.: FC01-035A Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom

Specification:

 Work Order #:
 76248
 Date:
 05/11/2001

 Test Type:
 Maximized Emissions
 Time:
 16:06:06

Equipment: Ambulatory ECG Transceiver Sequence#: 32

Manufacturer: VitalCom Tested By: Stuart Yamamoto

Model: DT-4500 S/N: 006003

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

	,			
Function	Manufacturer	Model #	S/N	
Ambulatory ECG	VitalCom	DT-4500	006003	
Transceiver*				

### Support Devices:

TI			
Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom		

### Test Conditions / Notes:

The EUT along with the support equipment are located on the non conductive tabletop. The EUT's serial port is connected a Test Box which is connected to laptop PC via shielded serial cable. The antenna/ECG leadset port of the EUT has a short custom made coaxial cable connected to it. This cable was specifically designed for the antenna terminal tests and has a BNC connector for direct connection to the spectrum analyzer. Voltage to EUT supplied by 9 Vdc internal battery. Temperature: 20°C, Humidity: 35%, Pressure: 100kPa. Antenna Terminal Testing. Frequency range is 7 MHz - 10 GHz. Data below is for the spurious emissions of the EUT when set at the high channel. **Note:** There is no limit line for this test. Margin reading is corrected amplitude reading in dBuV.

Measurement Da	ta: Reading listed	l by margin.	Test Distance	e: None	
			DC B1		
#	Freq	Rdng		Dist	Corr
	MHz	dΒμV	dB	Table	dΒμV
1	1225.800M	60.6	+0.8	+0.0	61.4
2	440.727M	54.8	+0.8	+0.0	55.6
3	539.412M	54.5	+0.8	+0.0	55.3
4	126.003M	52.8	+0.8	+0.0	53.6
5	1838.726M	52.5	+0.8	+0.0	53.3
6	465.972M	52.3	+0.8	+0.0	53.1
7	75.432M	51.9	+0.8	+0.0	52.7
8	367.306M	51.7	+0.8	+0.0	52.5

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9	392.549M	51.5	+0.8	+0.0	52.3
10	686.385M	51.2	+0.8	+0.0	52.0
11	293.816M	50.5	+0.8	+0.0	51.3
12	2451.496M	50.0	+0.8	+0.0	50.8
13	319.072M	49.6	+0.8	+0.0	50.4

## TEST EQUIPMENT USED – SPURIOUS EMISSIONS AT ANTENNA TERMINAL

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer	02467	HP	E7405A	US40240225	041001	041002
DC Block	NA	Weinschel	7003	G7658	051001	051002

ANALYZER BANDWIDTH SETTINGS DURING 2.1051/95.1115(b)(1) & (2) TESTING								
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING					
RADIATED EMISSIONS	7 MHz	30 MHz	9 kHz					
RADIATED EMISSIONS	30 MHz	1000 MHz	120 kHz					
RADIATED EMISSIONS	1 GHz	10 GHz	1 MHz					

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## TEST SETUP PHOTOGRAPH – SPURIOUS EMISSIONS AT ANTENNA TERMINAL



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### 2.1053/95.1115(b)(1) FIELD STRENGTH OF SPURIOUS RADIATION < 960 MHz

### Low Channel – 7-30 MHz – X Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(1) Undesired Emissions < 960 MHz

Work Order #: 76248 Date: 04/20/2001 Test Type: Maximized Emissions Time: 09:35:40

Equipment: Ambulatory ECG Transceiver Sequence#: 6

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500 S/N: 006003 (ID# 156)

Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 16°C 60% 100kPa. **X axis. Low Channel.** 

Measur	ement Data:	R	eading lis	sted by ma	argin.		Te	est Distance	e: 3 Meters		
			Cable	Mag L							
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	9.999M	29.4	+0.2	+10.2			+0.0	39.8	106.0	-66.2	None
2	8.002M	28.1	+0.2	+10.2			+0.0	38.5	106.0	-67.5	None
3	7.371M	28.0	+0.2	+10.1			+0.0	38.3	106.0	-67.7	None
4	7.011M	23.9	+0.2	+10.1			+0.0	34.2	106.0	-71.8	None
5	19.999M	22.9	+0.3	+8.8			+0.0	32.0	106.0	-74.0	None
6	29.999M	26.2	+0.4	+5.1			+0.0	31.7	106.0	-74.3	None

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### Low Channel – 7-30 MHz – Y Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(1) Undesired Emissions < 960 MHz

Work Order #: 76248 Date: 04/20/2001 Test Type: Maximized Emissions Time: 09:27:41

Equipment: Ambulatory ECG Transceiver Sequence#: 5

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

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

	- /-		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

### Support Devices:

Function	Manufacturer	Model #	S/N	
Computer	Compaq	Contura	7530HPE52263	
Test Box	VitalCom, Inc.			

### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 16°C 60% 100kPa. **Y axis. Low Channel.** 

Measur	ement Data:	R	eading lis	sted by ma	argin.		Te	st Distance	e: 3 Meters	<b>,</b>	
			Cable	Mag L							
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	dBµV/m	dB	Ant
1	7.002M	30.9	+0.2	+10.1			+0.0	41.2	106.0	-64.8	None
2	10.000M	30.4	+0.2	+10.2			+0.0	40.8	106.0	-65.2	None
3	8.001M	28.7	+0.2	+10.2			+0.0	39.1	106.0	-66.9	None
4	7.371M	28.1	+0.2	+10.1			+0.0	38.4	106.0	-67.6	None
5	30.000M	26.6	+0.4	+5.1			+0.0	32.1	106.0	-73.9	None
6	20.002M	21.0	+0.3	+8.8			+0.0	30.1	106.0	-75.9	None

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### Low Channel – 7-30 MHz – Z Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(1) Undesired Emissions < 960 MHz

Work Order #: 76248 Date: 04/20/2001 Test Type: Maximized Emissions Time: 09:51:41

Equipment: Ambulatory ECG Transceiver Sequence#: 7

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

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

	,		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

### Support Devices:

Function	Manufacturer	Model #	S/N	
Computer	Compaq	Contura	7530HPE52263	
Test Box	VitalCom, Inc.			

### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 16°C 60% 100kPa. **Z axis. Low Channel.** 

Measur	Measurement Data: Reading listed by margin.					Test Distance: 3 Meters					
			Cable	Mag L							
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	8.002M	29.1	+0.2	+10.2			-20.0	19.5	29.5	-10.0	None
2	7.367M	26.2	+0.2	+10.1			-20.0	16.5	29.5	-13.0	None
3	9.997M	25.8	+0.2	+10.2			-20.0	16.2	29.5	-13.3	None
4	19.999M	26.6	+0.3	+8.8			-20.0	15.7	29.5	-13.8	None
5	7.011M	24.4	+0.2	+10.1			-20.0	14.7	29.5	-14.8	None
6	30.002M	26.6	+0.4	+0.0			-20.0	7.0	29.5	-22.5	None

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### Low Channel – 30-1000 MHz – X Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(1) Undesired Emissions < 960 MHz

Work Order #: 76248 Date: 04/19/2001 Test Type: Maximized Emissions Time: 16:28:33

Equipment: Ambulatory ECG Transceiver Sequence#: 3

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

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

1 1	- /-		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

### Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 17°C 45% 100kPa. **X axis. Low Channel.** 

Measu	Measurement Data: Reading listed by margin.						Τe	est Distanc	e: 3 Meters	1	
			Cable	Bilog	Pream						
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	dBµV/m	dB	Ant
1	597.992M	58.0	+1.5	+19.8	-28.0		+0.0	51.3	106.0	-54.7	Horiz
									Emissions	is related	
									to Transmi	tter	
2	150.118M	60.3	+0.7	+10.6	-27.9		+0.0	43.7	106.0	-62.3	Vert
	QP								Source is s	upport	
									laptop com	puter	
^	150.069M	62.2	+0.7	+10.6	-27.9		+0.0	45.6	106.0	-60.4	Vert
									Source is s	upport	
									laptop com	puter	
4	149.991M	57.5	+0.7	+10.6	-27.9		+0.0	40.9	106.0	-65.1	Horiz
	QP										
^	149.989M	59.4	+0.7	+10.6	-27.9		+0.0	42.8	106.0	-63.2	Horiz
6	375.244M	52.8	+1.2	+15.0	-28.1		+0.0	40.9	106.0	-65.2	Horiz
	QP										
^	375.166M	55.5	+1.2	+15.0	-28.1		+0.0	43.6	106.0	-62.4	Horiz

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8	250.183M	55.3	+0.9	+12.2	-28.0	+0.0	40.4	106.0	-65.6	Horiz
9	325.224M QP	53.1	+1.1	+13.8	-28.1	+0.0	39.9	106.0	-66.1	Horiz
٨	325.228M	55.9	+1.1	+13.8	-28.1	+0.0	42.7	106.0	-63.3	Horiz
11	286.384M QP	53.7	+1.0	+12.7	-28.1	+0.0	39.3	106.0	-66.7	Horiz
^	286.382M	58.3	+1.0	+12.7	-28.1	+0.0	43.9	106.0	-62.1	Horiz
13	362.766M QP	51.5	+1.2	+14.6	-28.1	+0.0	39.2	106.0	-66.8	Horiz
^	362.769M	58.0	+1.2	+14.6	-28.1	+0.0	45.7	106.0	-60.3	Horiz
	274.971M QP	53.5	+1.0	+12.3	-28.0	+0.0	38.8	106.0	-67.2	Horiz
^	275.015M	58.4	+1.0	+12.3	-28.0	+0.0	43.7	106.0	-62.3	Horiz
17	599.830M	44.0	+1.5	+19.8	-28.0	+0.0	37.3	106.0	-68.7	Horiz
18	300.192M QP	50.4	+1.1	+13.1	-28.3	+0.0	36.3	106.0	-69.7	Horiz
٨	300.210M	57.8	+1.1	+13.1	-28.3	+0.0	43.7	106.0	-62.3	Horiz
20	650.098M	41.2	+1.6	+20.3	-27.4	+0.0	35.7	106.0	-70.3	Horiz
21	75.074M	52.8	+0.6	+6.2	-28.2	+0.0	31.4	106.0	-74.6	Vert

### Low Channel – 30-1000 MHz – Y Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(1) Undesired Emissions < 960 MHz

Work Order #: 76248 Date: 04/19/2001 Test Type: Maximized Emissions Time: 14:53:57

Equipment: Ambulatory ECG Transceiver Sequence#: 2

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

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

Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

### Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 17°C 45% 100kPa. **Y axis. Low Channel.** 

Meas	urement Data:	R	eading lis	sted by m	nargin.	Test Distance: 3 Meters					
			Cable	Bilog	Pream						
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
	1 597.992M	58.0	+1.5	+19.8	-28.0		+0.0	51.3	106.0	-54.7	Horiz
									Emissions	is related	
									to Transmi	itter	
2	2 150.118M	60.3	+0.7	+10.6	-27.9		+0.0	43.7	106.0	-62.3	Vert
	QP								Source is s	upport	
									laptop con	nputer	
1 4	^ 150.069M	62.2	+0.7	+10.6	-27.9		+0.0	45.6	106.0	-60.4	Vert
									Source is s	upport	
									laptop con	nputer	
4	4 275.201M	56.6	+1.0	+12.3	-28.0		+0.0	41.9	106.0	-64.1	Horiz
	QP										
4	^ 275.204M	59.8	+1.0	+12.3	-28.0		+0.0	45.1	106.0	-60.9	Horiz
(	5 149.991 <b>M</b>	57.5	+0.7	+10.6	-27.9		+0.0	40.9	106.0	-65.1	Horiz
	QP										
	^ 149.989M	59.4	+0.7	+10.6	-27.9		+0.0	42.8	106.0	-63.2	Horiz

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8 286.397M QP	53.3	+1.0	+12.7	-28.1	+0.0	38.9	106.0	-67.1	Horiz
^ 286.421M	56.2	+1.0	+12.7	-28.1	+0.0	41.8	106.0	-64.2	Horiz
10 375.160M QP	50.7	+1.2	+15.0	-28.1	+0.0	38.8	106.0	-67.2	Horiz
^ 375.102M	53.8	+1.2	+15.0	-28.1	+0.0	41.9	106.0	-64.1	Horiz
12 362.688M	51.0	+1.2	+14.6	-28.1	+0.0	38.7	106.0	-67.3	Horiz
13 325.229M QP	51.7	+1.1	+13.8	-28.1	+0.0	38.5	106.0	-67.5	Horiz
^ 325.251M	54.8	+1.1	+13.8	-28.1	+0.0	41.6	106.0	-64.4	Horiz
15 250.146M	52.1	+0.9	+12.2	-28.0	+0.0	37.2	106.0	-68.8	Horiz
16 650.047M	42.4	+1.6	+20.3	-27.4	+0.0	36.9	106.0	-69.1	Horiz
17 599.772M	43.3	+1.5	+19.8	-28.0	+0.0	36.6	106.0	-69.4	Horiz
18 300.079M QP	50.5	+1.1	+13.1	-28.3	+0.0	36.4	106.0	-69.6	Horiz
^ 300.126M	55.7	+1.1	+13.1	-28.3	+0.0	41.6	106.0	-64.4	Horiz
20 225.164M	53.8	+0.9	+9.3	-28.0	+0.0	36.0	106.0	-70.0	Horiz
21 75.042M	53.2	+0.6	+6.2	-28.2	+0.0	31.8	106.0	-74.2	Vert
22 616.338M	36.2	+1.5	+20.5	-27.8	+0.0	30.4	106.0	-75.6	Horiz
23 41.409M	43.7	+0.5	+12.1	-28.2	+0.0	28.1	106.0	-77.9	Horiz
24 50.383M	46.4	+0.5	+7.2	-28.1	+0.0	26.0	106.0	-80.0	Vert

### Low Channel – 30-1000 MHz – Z Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(1) Undesired Emissions < 960 MHz

Work Order #: 76248 Date: 04/19/2001 Test Type: Maximized Emissions Time: 17:06:43

Equipment: Ambulatory ECG Transceiver Sequence#: 4

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

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

	- /-		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

### Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 17°C 45% 100kPa. **Z axis. Low Channel.** 

Measu	rement Data:	R	eading lis	sted by m	margin. Test Distance: 3 Meters						
			Cable	Bilog	Pream						
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	dBµV/m	dBμV/m	dB	Ant
1	597.992M	58.0	+1.5	+19.8	-28.0		+0.0	51.3	106.0	-54.7	Horiz
									Emissions	is related	
									to Transmi	itter	
2	150.118M	60.3	+0.7	+10.6	-27.9		+0.0	43.7	106.0	-62.3	Vert
	QP								Source is s	upport	
									laptop con	nputer	
^	150.069M	62.2	+0.7	+10.6	-27.9		+0.0	45.6	106.0	-60.4	Vert
									Source is s	upport	
									laptop com	nputer	
4	149.991M	57.5	+0.7	+10.6	-27.9		+0.0	40.9	106.0	-65.1	Horiz
	QP										
^	149.989M	59.4	+0.7	+10.6	-27.9		+0.0	42.8	106.0	-63.2	Horiz
6	250.056M	55.0	+0.9	+12.2	-28.0		+0.0	40.1	106.0	-65.9	Horiz
7	286.389M	54.5	+1.0	+12.7	-28.1		+0.0	40.1	106.0	-65.9	Horiz
	QP										
^	286.387M	57.6	+1.0	+12.7	-28.1		+0.0	43.2	106.0	-62.8	Horiz

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9 375.246M QP	51.8	+1.2	+15.0	-28.1	+0.0	39.9	106.0	-66.1	Horiz
^ 375.219M	54.1	+1.2	+15.0	-28.1	+0.0	42.2	106.0	-63.8	Horiz
11 275.190M QP	54.4	+1.0	+12.3	-28.0	+0.0	39.7	106.0	-66.3	Horiz
^ 275.198M	58.6	+1.0	+12.3	-28.0	+0.0	43.9	106.0	-62.1	Horiz
13 325.228M QP	52.6	+1.1	+13.8	-28.1	+0.0	39.4	106.0	-66.7	Horiz
^ 325.216M	55.7	+1.1	+13.8	-28.1	+0.0	42.5	106.0	-63.5	Horiz
15 362.630M QP	51.5	+1.2	+14.6	-28.1	+0.0	39.2	106.0	-66.8	Horiz
^ 362.679M	55.6	+1.2	+14.6	-28.1	+0.0	43.3	106.0	-62.7	Horiz
17 225.115M	55.0	+0.9	+9.3	-28.0	+0.0	37.2	106.0	-68.8	Horiz
18 300.084M OP	51.2	+1.1	+13.1	-28.3	+0.0	37.1	106.0	-68.9	Horiz
^ 300.012M	56.6	+1.1	+13.1	-28.3	+0.0	42.5	106.0	-63.5	Horiz
20 599.910M	42.9	+1.5	+19.8	-28.0	+0.0	36.2	106.0	-69.8	Horiz
21 650.124M	38.1	+1.6	+20.3	-27.4	+0.0	32.6	106.0	-73.4	Horiz
22 616.338M	36.2	+1.5	+20.5	-27.8	+0.0	30.4	106.0	-75.6	Horiz
23 75.142M	49.9	+0.6	+6.2	-28.2	+0.0	28.5	106.0	-77.5	Vert
24 41.409M	43.7	+0.5	+12.1	-28.2	+0.0	28.1	106.0	-77.9	Horiz
25 50.383M	46.4	+0.5	+7.2	-28.1	+0.0	26.0	106.0	-80.0	Vert

### Mid Channel – 7-30 MHz – X Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(1) Undesired Emissions < 960 MHz

Work Order #: 76248 Date: 04/20/2001
Test Type: Maximized Emissions Time: 10:22:57
Equipment: Ambulatory ECG Transceiver Sequence#: 10

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

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

Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

### Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 16°C 60% 100kPa. **X axis. Mid Channel.** 

Measur	ement Data:	Re	Reading listed by margin.				Test Distance: 3 Meters				
			Cable	Mag L							
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	dBµV/m	dB	Ant
1	9.998M	27.2	+0.2	+10.2			+0.0	37.6	106.0	-68.4	None
2	7.995M	27.1	+0.2	+10.2			+0.0	37.5	106.0	-68.5	None
3	7.018M	26.4	+0.2	+10.1			+0.0	36.7	106.0	-69.3	None
4	20.000M	27.5	+0.3	+8.8			+0.0	36.6	106.0	-69.4	None
5	7.375M	25.4	+0.2	+10.1			+0.0	35.7	106.0	-70.3	None
6	30.027M	27.9	+0.4	+0.0			+0.0	28.3	106.0	-77.7	None

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### Mid Channel – 7-30 MHz – Y Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(1) Undesired Emissions < 960 MHz

Work Order #: 76248 Date: 04/20/2001 Test Type: Maximized Emissions Time: 10:11:37

Equipment: Ambulatory ECG Transceiver Sequence#: 9

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

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

	,		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

### Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 16°C 60% 100kPa. **Y axis. Mid Channel.** 

Measur	ement Data:	Re	Reading listed by margin.				Test Distance: 3 Meters				
			Cable	Mag L							
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	dBµV/m	dB	Ant
1	9.997M	28.6	+0.2	+10.2			+0.0	39.0	106.0	-67.0	None
2	7.993M	28.2	+0.2	+10.2			+0.0	38.6	106.0	-67.4	None
3	7.372M	26.7	+0.2	+10.1			+0.0	37.0	106.0	-69.0	None
4	19.999M	26.0	+0.3	+8.8			+0.0	35.1	106.0	-70.9	None
5	7.018M	24.7	+0.2	+10.1			+0.0	35.0	106.0	-71.0	None
6	30.024M	30.1	+0.4	+0.0			+0.0	30.5	106.0	-75.5	None

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### Mid Channel – 7-30 MHz – Z Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(1) Undesired Emissions < 960 MHz

Work Order #: 76248 Date: 04/20/2001 Test Type: Maximized Emissions Time: 10:03:01

Equipment: Ambulatory ECG Transceiver Sequence#: 8

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

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

	- /-		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

### Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 16°C 60% 100kPa. **Z axis. Mid Channel.** 

Measur	ement Data:	Reading listed by margin.				Test Distance: 3 Meters					
			Cable	Mag L							
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	9.997M	28.1	+0.2	+10.2			+0.0	38.5	106.0	-67.5	None
2	7.369M	27.6	+0.2	+10.1			+0.0	37.9	106.0	-68.1	None
3	7.992M	26.0	+0.2	+10.2			+0.0	36.4	106.0	-69.6	None
4	19.999M	26.8	+0.3	+8.8			+0.0	35.9	106.0	-70.1	None
5	7.018M	24.3	+0.2	+10.1			+0.0	34.6	106.0	-71.4	None
6	30.003M	30.7	+0.4	+0.0			+0.0	31.1	106.0	-74.9	None

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## Mid Channel – 30-1000 MHz – X Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(1) Undesired Emissions < 960 MHz

Work Order #: 76248 Date: 04/20/2001
Test Type: Maximized Emissions Time: 17:30:02
Equipment: Ambulatory ECG Transceiver Sequence#: 16

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

# Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

## Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

#### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 16°C 60% 100kPa. **X axis. Mid Channel.** 

Measu	rement Data:	R	eading lis	sted by m	argin.		Те	est Distanc	e: 3 Meters	3	
			Cable	Bilog	Pream						
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	dBμV/m	dBμV/m	dB	Ant
1	150.118M	60.3	+0.7	+10.6	-27.9		+0.0	43.7	106.0	-62.3	Vert
	QP								Source is s		
									laptop con	nputer	
^	150.069M	62.2	+0.7	+10.6	-27.9		+0.0	45.6	106.0	-60.4	Vert
									Source is s		
									laptop con	nputer	
3	- 17 17 7	57.5	+0.7	+10.6	-27.9		+0.0	40.9	106.0	-65.1	Horiz
	QP										
^	149.989M	59.4	+0.7	+10.6	-27.9		+0.0	42.8	106.0	-63.2	Horiz
5	375.484M	52.1	+1.2	+15.0	-28.1		+0.0	40.2	106.0	-65.8	Horiz
6	371.076M	52.2	+1.2	+14.8	-28.1		+0.0	40.1	106.0	-65.9	Horiz
7	300.102M	54.1	+1.1	+13.1	-28.3		+0.0	40.0	106.0	-66.0	Horiz
									1010		
8	325.015M	50.4	+1.1	+13.8	-28.1		+0.0	37.2	106.0	-68.8	Horiz

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9	650.394M	41.7	+1.6	+20.3	-27.4	+0.0	36.2	106.0	-69.8	Horiz
10	250.007M	50.7	+0.9	+12.2	-28.0	+0.0	35.8	106.0	-70.2	Horiz
11	524.760M	43.1	+1.4	+18.6	-27.8	+0.0	35.3	106.0	-70.7	Horiz
12	275.286M	48.2	+1.0	+12.3	-28.0	+0.0	33.5	106.0	-72.5	Horiz
13	307.045M	47.3	+1.1	+13.2	-28.3	+0.0	33.3	106.0	-72.7	Horiz
14	286.404M	47.0	+1.0	+12.7	-28.1	+0.0	32.6	106.0	-73.4	Horiz
15	75.040M	52.5	+0.6	+6.2	-28.2	+0.0	31.1	106.0	-74.9	Vert
16	226.814M	47.8	+0.9	+9.4	-28.0	+0.0	30.1	106.0	-75.9	Horiz
17	201.419M	46.1	+0.9	+8.4	-28.2	+0.0	27.2	106.0	-78.8	Vert

## Mid Channel – 30-1000 MHz – Y Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(1) Undesired Emissions < 960 MHz

Work Order #: 76248 Date: 04/20/2001
Test Type: Maximized Emissions Time: 16:28:46
Equipment: Ambulatory ECG Transceiver Sequence#: 14

Equipment: Ambulatory ECG Transceiver Sequence#: 14
Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Manufacturer: VitalCom, Inc Model: DT-4500

S/N: 006003 (ID# 156)

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

	- /-		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

#### Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

#### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 16°C 60% 100kPa. **Y axis. Mid Channel.** 

Measu	rement Data:	R	eading lis	sted by m	argin.	gin. Test Distance: 3 Meters					
			Cable	Bilog	Pream						
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	dBµV/m	dBμV/m	dB	Ant
1	150.118M	60.3	+0.7	+10.6	-27.9		+0.0	43.7	106.0	-62.3	Vert
	QP								Source is s	upport	
									laptop com	puter	
٨	150.069M	62.2	+0.7	+10.6	-27.9		+0.0	45.6	106.0	-60.4	Vert
									Source is s	upport	
									laptop con	puter	
3	325.236M	55.8	+1.1	+13.8	-28.1		+0.0	42.6	106.0	-63.4	Horiz
	QP										
٨	325.242M	56.9	+1.1	+13.8	-28.1		+0.0	43.7	106.0	-62.3	Horiz
5	149.991M	57.5	+0.7	+10.6	-27.9		+0.0	40.9	106.0	-65.1	Horiz
	QP										
٨	149.989M	59.4	+0.7	+10.6	-27.9		+0.0	42.8	106.0	-63.2	Horiz
7	371.122M	52.6	+1.2	+14.8	-28.1		+0.0	40.5	106.0	-65.5	Horiz
8	300.192M	54.4	+1.1	+13.1	-28.3		+0.0	40.3	106.0	-65.7	Horiz

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9	275.200M	53.9	+1.0	+12.3	-28.0	+0.0	39.2	106.0	-66.8	Horiz
10	375.231M	50.3	+1.2	+15.0	-28.1	+0.0	38.4	106.0	-67.6	Horiz
11	650.499M	43.8	+1.6	+20.3	-27.4	+0.0	38.3	106.0	-67.7	Horiz
12	250.113M	52.3	+0.9	+12.2	-28.0	+0.0	37.4	106.0	-68.6	Horiz
13	306.876M	51.2	+1.1	+13.2	-28.3	+0.0	37.2	106.0	-68.8	Horiz
14	226.624M	53.7	+0.9	+9.4	-28.0	+0.0	36.0	106.0	-70.0	Horiz
15	286.404M QP	49.4	+1.0	+12.7	-28.1	+0.0	35.0	106.0	-71.0	Horiz
^	286.418M	55.6	+1.0	+12.7	-28.1	+0.0	41.2	106.0	-64.8	Horiz
17	524.808M	41.3	+1.4	+18.6	-27.8	+0.0	33.5	106.0	-72.5	Horiz
18	75.062M	52.2	+0.6	+6.2	-28.2	+0.0	30.8	106.0	-75.2	Vert
19	201.423M	46.3	+0.9	+8.4	-28.2	+0.0	27.4	106.0	-78.6	Vert

## Mid Channel – 30-1000 MHz – Z Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(1) Undesired Emissions < 960 MHz

Work Order #: 76248 Date: 04/20/2001
Test Type: Maximized Emissions Time: 17:11:49
Equipment: Ambulatory ECG Transceiver Sequence#: 15

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

# Equipment Under Test (\* = EUT):

1 1	- /-		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

#### Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

#### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 16°C 60% 100kPa. **Z axis. Mid Channel.** 

Measu	rement Data:	R	eading lis	sted by m	nargin.	gin. Test Distance: 3 Meters					
			Cable	Bilog	Pream						
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	dBµV/m	dBμV/m	dB	Ant
1	150.118M	60.3	+0.7	+10.6	-27.9		+0.0	43.7	106.0	-62.3	Vert
	QP								Source is s	upport	
									laptop com	puter	
^	150.069M	62.2	+0.7	+10.6	-27.9		+0.0	45.6	106.0	-60.4	Vert
									Source is s	upport	
									laptop con	puter	
3	149.991M	57.5	+0.7	+10.6	-27.9		+0.0	40.9	106.0	-65.1	Horiz
	QP										
^	149.989M	59.4	+0.7	+10.6	-27.9		+0.0	42.8	106.0	-63.2	Horiz
5	300.073M	54.5	+1.1	+13.1	-28.3		+0.0	40.4	106.0	-65.6	Horiz
6	375.323M	52.1	+1.2	+15.0	-28.1		+0.0	40.2	106.0	-65.8	Horiz
7	371.150M	52.1	+1.2	+14.8	-28.1		+0.0	40.0	106.0	-66.0	Horiz
8	250.010M	52.1	+0.9	+12.2	-28.0		+0.0	37.2	106.0	-68.8	Horiz

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9	650.533M	42.2	+1.6	+20.3	-27.4	+0.0	36.7	106.0	-69.3	Horiz
10	325.252M	49.6	+1.1	+13.8	-28.1	+0.0	36.4	106.0	-69.6	Horiz
11	275.253M	48.3	+1.0	+12.3	-28.0	+0.0	33.6	106.0	-72.4	Horiz
12	524.850M	41.2	+1.4	+18.6	-27.8	+0.0	33.4	106.0	-72.6	Horiz
13	306.884M	47.3	+1.1	+13.2	-28.3	+0.0	33.3	106.0	-72.7	Horiz
14	286.467M	46.5	+1.0	+12.7	-28.1	+0.0	32.1	106.0	-73.9	Horiz
15	75.062M	52.1	+0.6	+6.2	-28.2	+0.0	30.7	106.0	-75.3	Vert
16	226.662M	47.3	+0.9	+9.4	-28.0	+0.0	29.6	106.0	-76.4	Horiz
17	201.399M	46.8	+0.9	+8.4	-28.2	+0.0	27.9	106.0	-78.1	Vert

## **High Channel – 7-30 MHz – X Axis**

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(1) Undesired Emissions < 960 MHz

Work Order #: 76248 Date: 04/20/2001
Test Type: Maximized Emissions Time: 11:06:01
Equipment: Ambulatory ECG Transceiver Sequence#: 13

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

# Equipment Under Test (\* = EUT):

	,		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

#### Support Devices:

Function	Manufacturer	Model #	S/N	
Computer	Compaq	Contura	7530HPE52263	
Test Box	VitalCom, Inc.			

#### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 16°C 60% 100kPa. **X axis. High Channel**.

Measur	ement Data:	Re	Reading listed by margin.				Test Distance: 3 Meters				
			Cable	Mag L							
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	7.997M	27.1	+0.2	+10.2			+0.0	37.5	106.0	-68.5	None
2	20.001M	28.3	+0.3	+8.8			+0.0	37.4	106.0	-68.6	None
3	7.019M	26.7	+0.2	+10.1			+0.0	37.0	106.0	-69.0	None
4	10.001M	26.5	+0.2	+10.2			+0.0	36.9	106.0	-69.1	None
5	7.376M	25.4	+0.2	+10.1			+0.0	35.7	106.0	-70.3	None
6	30.048M	32.1	+0.4	+0.0			+0.0	32.5	106.0	-73.5	None

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## **High Channel – 7-30 MHz – Y Axis**

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(1) Undesired Emissions < 960 MHz

Work Order #: 76248 Date: 04/20/2001
Test Type: Maximized Emissions Time: 10:52:32
Equipment: Ambulatory ECG Transceiver Sequence#: 12

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

# Equipment Under Test (\* = EUT):

	,		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

#### Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 16°C 60% 100kPa. Y axis. Hi Channel.

Measur	ement Data:	Re	eading lis	sted by ma	argin.	Test Distance: 3 Meters					
			Cable	Mag L							
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	7.018M	28.0	+0.2	+10.1			+0.0	38.3	106.0	-67.7	None
2	20.001M	28.9	+0.3	+8.8			+0.0	38.0	106.0	-68.0	None
3	7.995M	26.5	+0.2	+10.2			+0.0	36.9	106.0	-69.1	None
4	7.376M	26.2	+0.2	+10.1			+0.0	36.5	106.0	-69.5	None
5	10.000M	25.9	+0.2	+10.2			+0.0	36.3	106.0	-69.7	None
6	30.045M	30.3	+0.4	+0.0			+0.0	30.7	106.0	-75.3	None

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## **High Channel – 7-30 MHz – Z Axis**

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(1) Undesired Emissions < 960 MHz

Work Order #: 76248 Date: 04/20/2001
Test Type: Maximized Emissions Time: 10:42:42
Equipment: Ambulatory ECG Transceiver Sequence#: 11

Equipment: Ambulatory ECG Transceiver Sequence#: 11
Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

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

	- /-		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

#### Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

#### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 16°C 60% 100kPa. **Z axis. Hi Channel.** 

Measur	Measurement Data: Reading listed b				rgin. Test Distance: 3 Meters						
			Cable	Mag L							
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	dBµV/m	dB	Ant
1	9.998M	27.4	+0.2	+10.2			+0.0	37.8	106.0	-68.2	None
2	7.019M	26.7	+0.2	+10.1			+0.0	37.0	106.0	-69.0	None
3	7.375M	26.6	+0.2	+10.1			+0.0	36.9	106.0	-69.1	None
4	20.001M	27.6	+0.3	+8.8			+0.0	36.7	106.0	-69.3	None
5	7.995M	26.2	+0.2	+10.2			+0.0	36.6	106.0	-69.4	None
6	30.057M	28.8	+0.4	+0.0			+0.0	29.2	106.0	-76.8	None

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## High Channel – 30-1000 MHz – X Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(1) Undesired Emissions < 960 MHz

Work Order #: 76248 Date: 04/23/2001
Test Type: Maximized Emissions Time: 17:39:30
Equipment: Ambulatory ECG Transceiver Sequence#: 28

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

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

	- /-		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

#### Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

#### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 21°C, 35%, 100kPa. **X axis. High Channel**.

Measi	irement Data:	R	eading lis	sted by m	argin.		Τe	est Distanc	e: 3 Meters		
			Cable	Bilog	Pream	Bicon					
#	Freq	Rdng	Log_3				Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	dBμV/m	dB	Ant
1	150.118M	60.3	+0.7	+10.6	-27.9	+0.0	+0.0	43.7	106.0	-62.3	Vert
	QP		+0.0						Source is s	upport	
									laptop com	puter	
^	150.069M	62.2	+0.7	+10.6	-27.9	+0.0	+0.0	45.6	106.0	-60.4	Vert
			+0.0						Source is s	upport	
									laptop com	puter	
3	149.991M	57.5	+0.7	+10.6	-27.9	+0.0	+0.0	40.9	106.0	-65.1	Horiz
	QP		+0.0								
^	149.989M	59.4	+0.7	+10.6	-27.9	+0.0	+0.0	42.8	106.0	-63.2	Horiz
			+0.0								
5	242.340M	50.1	+0.9	+0.0	-28.0	+17.0	+0.0	40.0	106.0	-66.0	Horiz
			+0.0								
6	236.041M	49.2	+0.9	+0.0	-28.0	+16.9	+0.0	39.0	106.0	-67.0	Horiz
			+0.0								
7	450.226M	49.7	+1.2	+0.0	-28.6	+0.0	+0.0	38.4	106.0	-67.6	Horiz
			+16.1								
8	236.048M	48.4	+0.9	+0.0	-28.0	+16.9	+0.0	38.2	106.0	-67.8	Vert
			+0.0								

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9	251.740M	47.8	+0.9	+0.0	-28.0	+17.3	+0.0	38.0	106.0	-68.0	Horiz
			+0.0								
10	146.367M	47.9	+0.7	+0.0	-27.9	+17.2	+0.0	37.9	106.0	-68.1	Vert
			+0.0								
11	306.847M	43.5	+1.1	+0.0	-28.3	+0.0	+0.0	37.6	106.0	-68.4	Horiz
			+21.3								
12	242.322M	47.2	+0.9	+0.0	-28.0	+17.0	+0.0	37.1	106.0	-68.9	Vert
			+0.0								
13	374.760M	48.6	+1.2	+0.0	-28.1	+0.0	+0.0	36.7	106.0	-69.3	Horiz
	QP		+15.0								
^	374.766M	55.4	+1.2	+0.0	-28.1	+0.0	+0.0	43.5	106.0	-62.5	Horiz
			+15.0								
15	658.488M	41.5	+1.6	+0.0	-27.4	+0.0	+0.0	36.0	106.0	-70.0	Horiz
			+20.3								
16	524.971M	42.3	+1.4	+0.0	-27.8	+0.0	+0.0	33.6	106.0	-72.4	Horiz
			+17.7								
17	146.458M	42.4	+0.7	+0.0	-27.9	+17.2	+0.0	32.4	106.0	-73.6	Horiz
			+0.0								
18	670.508M	35.5	+1.6	+0.0	-27.4	+0.0	+0.0	30.8	106.0	-75.2	Horiz
			+21.1								

## High Channel – 30-1000 MHz – Y Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(1) Undesired Emissions < 960 MHz

Work Order #: 76248 Date: 04/23/2001
Test Type: Maximized Emissions Time: 17:12:48
Equipment: Ambulatory ECG Transceiver Sequence#: 26

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

# Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

#### Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

#### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 21°C, 35%, 100kPa. Y axis. High Channel.

Meası	irement Data:	R	eading lis	sted by m	argin.		Τe	est Distanc	e: 3 Meters		
			Cable	Bilog	Pream	Bicon					
#	Freq	Rdng	Log_3				Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	dBμV/m	dB	Ant
1	150.118M	60.3	+0.7	+10.6	-27.9	+0.0	+0.0	43.7	106.0	-62.3	Vert
	QP		+0.0						Source is s	upport	
									laptop com	puter	
٨	150.069M	62.2	+0.7	+10.6	-27.9	+0.0	+0.0	45.6	106.0	-60.4	Vert
			+0.0						Source is s	upport	
									laptop com	puter	
3	149.991M	57.5	+0.7	+10.6	-27.9	+0.0	+0.0	40.9	106.0	-65.1	Horiz
	QP		+0.0								
٨	149.989M	59.4	+0.7	+10.6	-27.9	+0.0	+0.0	42.8	106.0	-63.2	Horiz
			+0.0								
5	242.338M	50.6	+0.9	+0.0	-28.0	+17.0	+0.0	40.5	106.0	-65.5	Horiz
			+0.0								
6	235.976M	50.1	+0.9	+0.0	-28.0	+16.9	+0.0	39.9	106.0	-66.1	Horiz
			+0.0								
7	450.244M	51.1	+1.2	+0.0	-28.6	+0.0	+0.0	39.8	106.0	-66.2	Horiz
			+16.1								
8	236.057M	49.7	+0.9	+0.0	-28.0	+16.9	+0.0	39.5	106.0	-66.5	Vert
			+0.0								

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9	658.564M	45.0	+1.6	+0.0	-27.4	+0.0	+0.0	39.5	106.0	-66.5	Horiz
			+20.3								
10	251.767M	48.4	+0.9	+0.0	-28.0	+17.3	+0.0	38.6	106.0	-67.4	Horiz
			+0.0								
11	242.365M	48.5	+0.9	+0.0	-28.0	+17.0	+0.0	38.4	106.0	-67.6	Vert
			+0.0								
12	306.853M	43.9	+1.1	+0.0	-28.3	+0.0	+0.0	38.0	106.0	-68.0	Horiz
			+21.3								
13	634.550M	44.2	+1.6	+0.0	-27.6	+0.0	+0.0	37.7	106.0	-68.3	Horiz
			+19.5								
14	146.355M	45.7	+0.7	+0.0	-27.9	+17.2	+0.0	35.7	106.0	-70.3	Vert
	QP		+0.0								
^	146.343M	48.9	+0.7	+0.0	-27.9	+17.2	+0.0	38.9	106.0	-67.1	Vert
			+0.0								
16	375.006M	47.1	+1.2	+0.0	-28.1	+0.0	+0.0	35.2	106.0	-70.8	Horiz
	QP		+15.0								
^	374.954M	53.1	+1.2	+0.0	-28.1	+0.0	+0.0	41.2	106.0	-64.8	Horiz
			+15.0								
18	146.370M	44.6	+0.7	+0.0	-27.9	+17.2	+0.0	34.6	106.0	-71.4	Horiz
			+0.0								
19	524.933M	43.3	+1.4	+0.0	-27.8	+0.0	+0.0	34.6	106.0	-71.4	Horiz
			+17.7								
20	670.567M	38.7	+1.6	+0.0	-27.4	+0.0	+0.0	34.0	106.0	-72.0	Horiz
			+21.1								

## High Channel – 30-1000 MHz – Z Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(1) Undesired Emissions < 960 MHz

Work Order #: 76248 Date: 04/23/2001
Test Type: Maximized Emissions Time: 16:31:18
Equipment: Ambulatory ECG Transceiver Sequence#: 27

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

# Equipment Under Test (\* = EUT):

	,		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

#### Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

#### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 21°C, 35%, 100kPa. **Z** axis. High Channel.

Measi	rement Data:	R	teading lis	sted by m	argin.		Тє	est Distanc	e: 3 Meters	3	
			Cable	Bilog	Pream	Bicon					
#	Freq	Rdng	Log_3	_			Dist	Corr	Spec	Margin	Polar
	$\overline{MHz}$	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	dBμV/m	dB	Ant
1	150.118M	60.3	+0.7	+10.6	-27.9	+0.0	+0.0	43.7	106.0	-62.3	Vert
	QP		+0.0						Source is s	upport	
	_								laptop con	nputer	
٨	150.069M	62.2	+0.7	+10.6	-27.9	+0.0	+0.0	45.6	106.0	-60.4	Vert
			+0.0						Source is s	upport	
									laptop con	nputer	
3	149.991M	57.5	+0.7	+10.6	-27.9	+0.0	+0.0	40.9	106.0	-65.1	Horiz
	QP		+0.0								
٨	149.989M	59.4	+0.7	+10.6	-27.9	+0.0	+0.0	42.8	106.0	-63.2	Horiz
			+0.0								
5	236.104M	50.9	+0.9	+0.0	-28.0	+16.9	+0.0	40.7	106.0	-65.3	Horiz
			+0.0								
6	242.364M	50.8	+0.9	+0.0	-28.0	+17.0	+0.0	40.7	106.0	-65.3	Horiz
			+0.0								
7	634.549M	45.2	+1.6	+0.0	-27.6	+0.0	+0.0	38.7	106.0	-67.3	Horiz
			+19.5								
8	236.095M	48.9	+0.9	+0.0	-28.0	+16.9	+0.0	38.7	106.0	-67.3	Vert
			+0.0								

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9	306.866M	44.5	+1.1	+0.0	-28.3	+0.0	+0.0	38.6	106.0	-67.4	Horiz
			+21.3								
10	146.368M	48.4	+0.7	+0.0	-27.9	+17.2	+0.0	38.4	106.0	-67.6	Vert
			+0.0								
11	251.801M	47.5	+0.9	+0.0	-28.0	+17.3	+0.0	37.7	106.0	-68.3	Horiz
			+0.0								
12	242.343M	47.3	+0.9	+0.0	-28.0	+17.0	+0.0	37.2	106.0	-68.8	Vert
			+0.0								
13	450.253M	48.2	+1.2	+0.0	-28.6	+0.0	+0.0	36.9	106.0	-69.1	Horiz
			+16.1								
14	375.010M	48.7	+1.2	+0.0	-28.1	+0.0	+0.0	36.8	106.0	-69.2	Horiz
	QP		+15.0								
^	375.007M	53.3	+1.2	+0.0	-28.1	+0.0	+0.0	41.4	106.0	-64.6	Horiz
			+15.0								
16	524.922M	44.2	+1.4	+0.0	-27.8	+0.0	+0.0	35.5	106.0	-70.5	Horiz
			+17.7								
17	670.549M	39.8	+1.6	+0.0	-27.4	+0.0	+0.0	35.1	106.0	-70.9	Horiz
			+21.1								
18	658.547M	39.8	+1.6	+0.0	-27.4	+0.0	+0.0	34.3	106.0	-71.7	Horiz
			+20.3								
19	146.438M	43.5	+0.7	+0.0	-27.9	+17.2	+0.0	33.5	106.0	-72.5	Horiz
			+0.0								

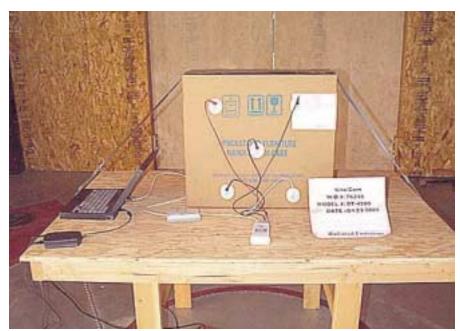
# TEST EQUIPMENT USED FIELD STRENGTH OF SPURIOUS RADIATION < 960 MHz

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer	02467	HP	E7405A	US40240225	041001	041002
Spectrum Analyzer	02462	HP	8568B	2928A04874	032901	032902
QP Adapter	02325	HP	85650A	2521A00932	032901	032902
Bilog Antenna	00851	Schaffner- Chase EMC	CBL6111C	2629	090500	090501
Bicon Antenna	00306	A.H. System	SAS- 200/540	220	092000	092001
Log Periodic Antenna	00300	A.H. System	SAS- 200/516	331	092000	092001
Pre-amp	02320	HP	8447D	2443A03665	020601	020602
Antenna cable (3 meter site D)	NA	Andrew	LDF1-50	Cable#20	091500	091501
Antenna extension cable HF (70ft)	NA	Andrew	LDF1-50	Cable#18	091500	091501
Magnetic Loop Antenna	00314	EMCO	6502	2014	081700	081701

ANALYZER BANDWIDTH SETTINGS DURING 2.1053/95.1115(b)(1) TESTING								
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING					
RADIATED EMISSIONS	7 MHz	30 MHz	9 kHz					
RADIATED EMISSIONS	30 MHz	1000 MHz	120 kHz					

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# TEST SETUP PHOTOGRAPHS FIELD STRENGTH OF SPURIOUS RADIATION < 960 MHz



Front View



Back View

## 2.1053/95.1115(b)(2) FIELD STRENGTH OF SPURIOUS RADIATION > 960 MHz

## Low Channel – 1-10 GHz – X Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(2) Undesired Emissions > 960 MHz

Work Order #: 76248 Date: 04/23/2001
Test Type: Maximized Emissions Time: 14:31:23
Equipment: Ambulatory ECG Transceiver Sequence#: 24

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500 S/N: 006003 (ID# 156)

Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 21°C, 35%, 100kPa. **X axis. Low Channel.** 

Measi	urement Data:	R	eading lis	sted by m	argin.		Τe	est Distance	e: 3 Meters		
			HP 83	Horn	Cable	Cable					
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	1217.368M	58.2	-39.9	+25.2	+2.1	+3.2	+0.0	48.8	114.0	-65.2	Vert
	Ave										
^	1217.368M	65.4	-39.9	+25.2	+2.1	+3.2	+0.0	56.0	114.0	-58.0	Vert
3	2434.788M	51.2	-39.2	+28.4	+3.1	+4.6	+0.0	48.1	114.0	-65.9	Horiz
4	1217.389M	57.2	-39.9	+25.2	+2.1	+3.2	+0.0	47.8	114.0	-66.2	Horiz
	Ave										
^	1217.389M	65.4	-39.9	+25.2	+2.1	+3.2	+0.0	56.0	114.0	-58.0	Horiz
6	2434.632M	50.7	-39.2	+28.4	+3.1	+4.6	+0.0	47.6	114.0	-66.4	Vert
7	1825.966M	39.2	-39.1	+27.7	+2.7	+3.9	+0.0	34.4	114.0	-79.6	Horiz
	Ave										
^	1825.966M	54.4	-39.1	+27.7	+2.7	+3.9	+0.0	49.6	114.0	-64.4	Horiz

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9 1826.140M Ave	37.6	-39.1	+27.7	+2.7	+3.9	+0.0	32.8	114.0	-81.2	Vert
^ 1826.140M	54.1	-39.1	+27.7	+2.7	+3.9	+0.0	49.3	114.0	-64.7	Vert

## Low Channel – 1-10 GHz – Y Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(2) Undesired Emissions > 960 MHz

Work Order #: 76248 Date: 04/23/2001
Test Type: Maximized Emissions Time: 14:28:34
Equipment: Ambulatory ECG Transceiver Sequence#: 23

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500 S/N: 006003 (ID# 156)

Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

## Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 21°C, 35%, 100kPa. **Y axis. Low Channel.** 

Measi	urement Data:	R	Reading lis	sted by m	argin.		Te	est Distance	e: 3 Meters	i	
			HP 83	Horn	Cable	Cable					
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	1217.336M	59.7	-39.9	+25.2	+2.1	+3.2	+0.0	50.3	114.0	-63.7	Vert
	Ave										
^	1217.336M	66.7	-39.9	+25.2	+2.1	+3.2	+0.0	57.3	114.0	-56.7	Vert
3	2434.786M	50.2	-39.2	+28.4	+3.1	+4.6	+0.0	47.1	114.0	-66.9	Vert
1	2424 516M	50.0	20.2	129.4	+2.1	116	+0.0	46.0	1140	67.1	Homin
4	2434.516M	50.0	-39.2	+28.4	+3.1	+4.6	+0.0	46.9	114.0	-67.1	Horiz
5	1217.325M	52.8	-39.9	+25.2	+2.1	+3.2	+0.0	43.4	114.0	-70.6	Horiz
	Ave	32.0	37.7	123.2	12.1	13.2	10.0	13.1	111.0	70.0	HOHE
٨		62.2	-39.9	+25.2	+2.1	+3.2	+0.0	52.8	114.0	-61.2	Horiz
7	1825.890M	43.7	-39.1	+27.7	+2.7	+3.9	+0.0	38.9	114.0	-75.1	Vert
	Ave										
^	1825.890M	59.8	-39.1	+27.7	+2.7	+3.9	+0.0	55.0	114.0	-59.0	Vert
9	1020.1001.1	39.6	-39.1	+27.7	+2.7	+3.9	+0.0	34.8	114.0	-79.2	Horiz
	Ave										
^	1826.155M	57.1	-39.1	+27.7	+2.7	+3.9	+0.0	52.3	114.0	-61.7	Horiz

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## Low Channel – 1-10 GHz – Z Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(2) Undesired Emissions > 960 MHz

Work Order #: 76248 Date: 04/23/2001
Test Type: Maximized Emissions Time: 14:53:17
Equipment: Ambulatory ECG Transceiver Sequence#: 25

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500 S/N: 006003 (ID# 156)

Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

## Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

#### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 21°C, 35%, 100kPa. **Z axis. Low Channel.** 

Measi	urement Data:	R	teading lis	sted by m	argin.		Τe	est Distance	e: 3 Meters		
			HP 83	Horn	Cable	Cable					
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	1217.486M	60.9	-39.9	+25.2	+2.1	+3.2	+0.0	51.5	114.0	-62.5	Vert
	Ave										
^	1217.417M	65.3	-39.9	+25.2	+2.1	+3.2	+0.0	55.9	114.0	-58.1	Vert
3	1217.322M	58.7	-39.9	+25.2	+2.1	+3.2	+0.0	49.3	114.0	-64.7	Horiz
	Ave										
^	1217.322M	65.2	-39.9	+25.2	+2.1	+3.2	+0.0	55.8	114.0	-58.2	Horiz
5	2434.288M	51.0	-39.2	+28.4	+3.1	+4.6	+0.0	47.9	114.0	-66.1	Horiz
6	2434.596M	50.7	-39.2	+28.4	+3.1	+4.6	+0.0	47.6	114.0	-66.4	Vert
7	1826.016M	49.1	-39.1	+27.7	+2.7	+3.9	+0.0	44.3	114.0	-69.7	Vert
	Ave										
^	1826.016M	55.5	-39.1	+27.7	+2.7	+3.9	+0.0	50.7	114.0	-63.3	Vert
9	1825.809M	37.6	-39.1	+27.7	+2.7	+3.9	+0.0	32.8	114.0	-81.2	Horiz
	Ave										
^	1825.809M	54.3	-39.1	+27.7	+2.7	+3.9	+0.0	49.5	114.0	-64.5	Horiz

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## Mid Channel – 1-10 GHz – X Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(2) Undesired Emissions > 960 MHz

Work Order #: 76248 Date: 04/23/2001
Test Type: Maximized Emissions Time: 13:40:31
Equipment: Ambulatory ECG Transceiver Sequence#: 22

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

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

	,		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

#### Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

#### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 21°C, 35%, 100kPa. **X axis. Mid Channel.** 

Measu	rement Data:	R	eading lis	sted by m	argin.		Τe	est Distance	e: 3 Meters	1	
			HP 83	Horn	Cable	Cable					
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	$\overline{MHz}$	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	2444.638M	51.4	-39.2	+28.4	+3.2	+4.6	+0.0	48.4	114.0	-65.6	Vert
2	2444.590M	50.4	-39.2	+28.4	+3.2	+4.6	+0.0	47.4	114.0	-66.6	Horiz
3	1832.611M	51.7	-39.1	+27.7	+2.7	+3.9	+0.0	46.9	114.0	-67.1	Vert
4	1832.499M	51.1	-39.1	+27.7	+2.7	+3.9	+0.0	46.3	114.0	-67.7	Horiz
5	1222.433M Ave	49.2	-39.9	+25.2	+2.1	+3.2	+0.0	39.8	114.0	-74.2	Vert
۸	1222.433M	60.3	-39.9	+25.2	+2.1	+3.2	+0.0	50.9	114.0	-63.1	Vert
7	1222.446M Ave	47.3	-39.9	+25.2	+2.1	+3.2	+0.0	37.9	114.0	-76.1	Horiz
۸	1222.446M	58.6	-39.9	+25.2	+2.1	+3.2	+0.0	49.2	114.0	-64.8	Horiz

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## Mid Channel – 1-10 GHz – Y Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(2) Undesired Emissions > 960 MHz

Work Order #: 76248 Date: 04/23/2001
Test Type: Maximized Emissions Time: 13:07:23

Equipment: Ambulatory ECG Transceiver Sequence#: 20

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto Model: DT-4500

Model: DT-4500 S/N: 006003 (ID# 156)

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

Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

#### Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

## Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 21°C, 35%, 100kPa. Y axis. Mid Channel.

Measi	urement Data:	R	Reading lis	sted by m	argin.		Тє	est Distance	e: 3 Meters		
			HP 83	Horn	Cable	Cable					
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	2444.560M	51.4	-39.2	+28.4	+3.2	+4.6	+0.0	48.4	114.0	-65.6	Horiz
2	1222.470M	57.7	-39.9	+25.2	+2.1	+3.2	+0.0	48.3	114.0	-65.7	Horiz
3	2444.571M	50.8	-39.2	+28.4	+3.2	+4.6	+0.0	47.8	114.0	-66.2	Vert
4	1832.390M	51.8	-39.1	+27.7	+2.7	+3.9	+0.0	47.0	114.0	-67.0	Horiz
5	1832.506M	50.8	-39.1	+27.7	+2.7	+3.9	+0.0	46.0	114.0	-68.0	Vert
6	1222.465M	50.7	-39.9	+25.2	+2.1	+3.2	+0.0	41.3	114.0	-72.7	Vert
	Ave										
^	1222.465M	58.9	-39.9	+25.2	+2.1	+3.2	+0.0	49.5	114.0	-64.5	Vert

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## Mid Channel – 1-10 GHz – Z Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(2) Undesired Emissions > 960 MHz

Work Order #: 76248 Date: 04/23/2001
Test Type: Maximized Emissions Time: 13:20:54
Equipment: Ambulatory ECG Transceiver Sequence#: 21

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

# Equipment Under Test (\* = EUT):

	,		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

## Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

#### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 21°C, 35%, 100kPa. **Z axis. Mid Channel.** 

Measu	rement Data:	R	Reading lis	sted by m	argin.		Τe	est Distance	e: 3 Meters		
			HP 83	Horn	Cable	Cable					
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	2444.729M	50.9	-39.2	+28.4	+3.2	+4.6	+0.0	47.9	114.0	-66.1	Vert
2	2444.360M	50.8	-39.2	+28.4	+3.2	+4.6	+0.0	47.8	114.0	-66.2	Horiz
3	1222.536M	57.1	-39.9	+25.2	+2.1	+3.2	+0.0	47.7	114.0	-66.3	Horiz
4	1832.545M	51.5	-39.1	+27.7	+2.7	+3.9	+0.0	46.7	114.0	-67.3	Horiz
5	1832.447M	50.5	-39.1	+27.7	+2.7	+3.9	+0.0	45.7	114.0	-68.3	Vert
6	1222.430M Ave	53.7	-39.9	+25.2	+2.1	+3.2	+0.0	44.3	114.0	-69.7	Vert
۸	1222.430M	60.7	-39.9	+25.2	+2.1	+3.2	+0.0	51.3	114.0	-62.7	Vert

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## **High Channel – 1-10 GHz – X Axis**

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(2) Undesired Emissions > 960 MHz

Work Order #: 76248 Date: 04/23/2001
Test Type: Maximized Emissions Time: 12:28:22
Equipment: Ambulatory ECG Transceiver Sequence#: 18

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

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

Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

#### Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

#### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 21°C, 35%, 100kPa. **X axis. High Channel.** 

Measu	irement Data:	R	Reading lis	sted by m	argin.		Te	est Distance	e: 3 Meters		
			HP 83	Horn	Cable	Cable					
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	1225.836M	60.5	-39.9	+25.2	+2.1	+3.2	+0.0	51.1	114.0	-62.9	Vert
	Ave										
^	1225.836M	66.8	-39.9	+25.2	+2.1	+3.2	+0.0	57.4	114.0	-56.6	Vert
3	1225.788M	59.8	-39.9	+25.2	+2.1	+3.2	+0.0	50.4	114.0	-63.6	Horiz
	Ave										
^	1225.788M	65.2	-39.9	+25.2	+2.1	+3.2	+0.0	55.8	114.0	-58.2	Horiz
5	1838.708M	53.3	-39.1	+27.8	+2.7	+3.9	+0.0	48.6	114.0	-65.4	Horiz
6	2451.442M	50.8	-39.2	+28.5	+3.2	+4.6	+0.0	47.9	114.0	-66.1	Vert
7	2451.894M	50.8	-39.2	+28.5	+3.2	+4.6	+0.0	47.9	114.0	-66.1	Horiz
8	1049.895M	56.3	-40.7	+24.5	+2.0	+3.0	+0.0	45.1	114.0	-68.9	Vert
9	1049.793M	50.9	-40.7	+24.5	+2.0	+3.0	+0.0	39.7	114.0	-74.3	Horiz

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10	0 1838.749M	40.8	-39.1	+27.8	+2.7	+3.9	+0.0	36.1	114.0	-77.9	Vert
	Ave										
	^ 1838.749M	59.2	-39.1	+27.8	+2.7	+3.9	+0.0	54.5	114.0	-59.5	Vert

## **High Channel – 1-10 GHz – Y Axis**

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(2) Undesired Emissions > 960 MHz

Work Order #: 76248 Date: 04/23/2001
Test Type: Maximized Emissions Time: 12:00:12
Equipment: Ambulatory ECG Transceiver Sequence#: 17

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

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

	,		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

#### Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

#### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 21°C, 35%, 100kPa. **Y axis. High Channel.** 

Measi	urement Data:	R	eading lis	sted by m	argin.	Test Distance: 3 Meters					
			HP 83	Horn	Cable	Cable					
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	1225.797M	60.9	-39.9	+25.2	+2.1	+3.2	+0.0	51.5	114.0	-62.5	Vert
	Ave										
^	1225.797M	65.4	-39.9	+25.2	+2.1	+3.2	+0.0	56.0	114.0	-58.0	Vert
3	1225.813M	60.3	-39.9	+25.2	+2.1	+3.2	+0.0	50.9	114.0	-63.1	Horiz
	Ave										
^	1225.790M	66.1	-39.9	+25.2	+2.1	+3.2	+0.0	56.7	114.0	-57.3	Horiz
5	1838.823M	53.7	-39.1	+27.8	+2.7	+3.9	+0.0	49.0	114.0	-65.0	Horiz
6	2451.536M	50.5	-39.2	+28.5	+3.2	+4.6	+0.0	47.6	114.0	-66.4	Vert
7	2451.718M	49.7	-39.2	+28.5	+3.2	+4.6	+0.0	46.8	114.0	-67.2	Horiz
8	1050.000M	55.8	-40.7	+24.5	+2.0	+3.0	+0.0	44.6	114.0	-69.4	Vert

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9 1838.685M	46.3	-39.1	+27.8	+2.7	+3.9	+0.0	41.6	114.0	-72.4	Vert
Ave										
^ 1838.685M	61.0	-39.1	+27.8	+2.7	+3.9	+0.0	56.3	114.0	-57.7	Vert
11 1049.865M	49.3	-40.7	+24.5	+2.0	+3.0	+0.0	38.1	114.0	-75.9	Horiz

## **High Channel – 1-10 GHz – Z Axis**

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc.

Specification: 95.1115(b)(2) Undesired Emissions > 960 MHz

Work Order #: 76248 Date: 04/23/2001
Test Type: Maximized Emissions Time: 12:48:26
Equipment: Ambulatory ECG Transceiver Sequence#: 19

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

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

	,		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

#### Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

#### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 21°C, 35%, 100kPa. **Z axis. High Channel.** 

Measu	rement Data:	R	eading lis	sted by m	argin.		Τe	est Distance	e: 3 Meters	ı	
			HP 83	Horn	Cable	Cable					
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	dBµV/m	dBμV/m	dB	Ant
1	1225.737M	60.7	-39.9	+25.2	+2.1	+3.2	+0.0	51.3	114.0	-62.7	Horiz
	Ave										
^	1225.737M	66.5	-39.9	+25.2	+2.1	+3.2	+0.0	57.1	114.0	-56.9	Horiz
3	1225.817M	60.7	-39.9	+25.2	+2.1	+3.2	+0.0	51.3	114.0	-62.7	Vert
	Ave										
٨	1225.737M	66.1	-39.9	+25.2	+2.1	+3.2	+0.0	56.7	114.0	-57.3	Vert
5	2451.355M	51.2	-39.2	+28.5	+3.2	+4.6	+0.0	48.3	114.0	-65.7	Vert
6	2451.769M	51.0	-39.2	+28.5	+3.2	+4.6	+0.0	48.1	114.0	-65.9	Horiz
7	1838.699M	51.9	-39.1	+27.8	+2.7	+3.9	+0.0	47.2	114.0	-66.8	Horiz
8	1050.018M	56.7	-40.7	+24.5	+2.0	+3.0	+0.0	45.5	114.0	-68.5	Vert
9	1049.644M	49.5	-40.7	+24.5	+2.0	+3.0	+0.0	38.3	114.0	-75.7	Horiz

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10 1838.667M	37.7	-39.1	+27.8	+2.7	+3.9	+0.0	33.0	114.0	-81.0	Vert
Ave										
^ 1838.667M	56.0	-39.1	+27.8	+2.7	+3.9	+0.0	51.3	114.0	-62.7	Vert

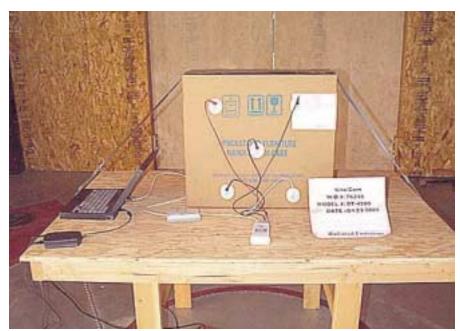
# TEST EQUIPMENT USED FIELD STRENGTH OF SPURIOUS RADIATION > 960 MHz

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer	02467	HP	E7405A	US40240225	041001	041002
Spectrum Analyzer	02462	HP	8568B	2928A04874	032901	032902
QP Adapter	02325	HP	85650A	2521A00932	032901	032902
Pre-amp	02320	HP	8447D	2443A03665	020601	020602
Antenna cable (3 meter site D)	NA	Andrew	LDF1-50	Cable#20	091500	091501
Antenna extension cable HF (70ft)	NA	Andrew	LDF1-50	Cable#18	091500	091501
Horn Antenna	01646	EMCO	3115	9603-4683	022801	022802
Microwave Pre-amp	00787	HP	83017A	3123A00282	030801	030802

ANALYZER BANDWIDTH SETTINGS DURING 2.1053/95.1115(b)(2) TESTING								
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING					
RADIATED EMISSIONS	1 GHz	10 GHz	1 MHz					

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# TEST SETUP PHOTOGRAPHS FIELD STRENGTH OF SPURIOUS RADIATION > 960 MHz



Front View



Back View

## 15.209 RADIATED EMISSIONS-DIGITAL SECTION OF TRANSCEIVER

## Mid Channel – 7-30 MHz – X Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc. Specification: FCC 15.209

Work Order #: 76248 Date: 04/20/2001
Test Type: Maximized Emissions Time: 10:22:57
Equipment: Ambulatory ECG Transceiver Sequence#: 10

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500 S/N: 006003 (ID# 156)

Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 16°C 60% 100kPa. **X axis. Mid Channel.** 

Measur	ement Data:	Re	eading lis	sted by ma	argin.		Τe	est Distance	e: 3 Meters	<b>,</b>	
			Cable	Mag L							
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	9.998M	27.2	+0.2	+10.2			-20.0	17.6	29.5	-11.9	None
2	7.995M	27.1	+0.2	+10.2			-20.0	17.5	29.5	-12.0	None
3	7.018M	26.4	+0.2	+10.1			-20.0	16.7	29.5	-12.8	None
4	20.000M	27.5	+0.3	+8.8			-20.0	16.6	29.5	-12.9	None
5	7.375M	25.4	+0.2	+10.1			-20.0	15.7	29.5	-13.8	None
6	30.027M	27.9	+0.4	+0.0			-20.0	8.3	29.5	-21.2	None

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## Mid Channel – 7-30 MHz – Y Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc. Specification: FCC 15.209

Work Order #: 76248 Date: 04/20/2001 Test Type: Maximized Emissions Time: 10:11:37

Equipment: Ambulatory ECG Transceiver Sequence#: 8

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

# Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

## Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

#### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 16°C 60% 100kPa. **Y axis. Mid Channel.** 

Measur	Measurement Data: Reading listed by margin.						Τe	est Distance	e: 3 Meters	i	
			Cable	Mag L							
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	dBµV/m	dB	Ant
1	9.997M	28.6	+0.2	+10.2			-20.0	19.0	29.5	-10.5	None
2	7.993M	28.2	+0.2	+10.2			-20.0	18.6	29.5	-10.9	None
3	7.372M	26.7	+0.2	+10.1			-20.0	17.0	29.5	-12.5	None
4	19.999M	26.0	+0.3	+8.8			-20.0	15.1	29.5	-14.4	None
5	7.018M	24.7	+0.2	+10.1			-20.0	15.0	29.5	-14.5	None
6	30.024M	30.1	+0.4	+0.0			-20.0	10.5	29.5	-19.0	None

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## Mid Channel – 7-30 MHz – Z Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc. Specification: FCC 15.209

Work Order #: 76248 Date: 04/20/2001
Test Type: Maximized Emissions Time: 10:03:01

Equipment: Ambulatory ECG Transceiver Sequence#: 9

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

# Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

#### Support Devices:

Function	Manufacturer	Model #	S/N	
Computer	Compaq	Contura	7530HPE52263	
Test Box	VitalCom, Inc.			

#### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 16°C 60% 100kPa. **Z axis. Mid Channel**.

Measur	ement Data:	Re	eading lis	ted by ma	argin.	Test Distance: 3 Meters					
			Cable	Mag L							
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	9.997M	28.1	+0.2	+10.2			-20.0	18.5	29.5	-11.0	None
2	7.369M	27.6	+0.2	+10.1			-20.0	17.9	29.5	-11.6	None
3	7.992M	26.0	+0.2	+10.2			-20.0	16.4	29.5	-13.1	None
4	19.999M	26.8	+0.3	+8.8			-20.0	15.9	29.5	-13.6	None
5	7.018M	24.3	+0.2	+10.1			-20.0	14.6	29.5	-14.9	None
6	30.003M	30.7	+0.4	+0.0			-20.0	11.1	29.5	-18.4	None

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## Mid Channel – 30-1000 MHz – X Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc. Specification: FCC 15.209

Work Order #: 76248 Date: 04/20/2001
Test Type: Maximized Emissions Time: 17:30:02
Equipment: Ambulatory ECG Transceiver Sequence#: 16

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

# Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

## Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

#### Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 16°C 60% 100kPa. **X axis. Mid Channel.** 

Measi	urement Data:	R	eading lis	sted by m	argin.	Test Distance: 3 Meters					
			Cable	Bilog	Pream						
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	150.118M	60.3	+0.7	+10.6	-27.9		+0.0	43.7	43.5	+0.2	Vert
	QP								Source is s	upport	
									laptop con	puter	
^	150.069M	62.2	+0.7	+10.6	-27.9		+0.0	45.6	43.5	+2.1	Vert
									Source is s	upport	
									laptop com	nputer	
3	149.991M	57.5	+0.7	+10.6	-27.9		+0.0	40.9	43.5	-2.6	Horiz
	QP										
^	149.989M	59.4	+0.7	+10.6	-27.9		+0.0	42.8	43.5	-0.7	Horiz
5	375.484M	52.1	+1.2	+15.0	-28.1		+0.0	40.2	46.0	-5.8	Horiz
6	371.076M	52.2	+1.2	+14.8	-28.1		+0.0	40.1	46.0	-5.9	Horiz
7	300.102M	54.1	+1.1	+13.1	-28.3		+0.0	40.0	46.0	-6.0	Horiz

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8	325.015M	50.4	+1.1	+13.8	-28.1	+0.0	37.2	46.0	-8.8	Horiz
9	75.040M	52.5	+0.6	+6.2	-28.2	+0.0	31.1	40.0	-8.9	Vert
10	650.394M	41.7	+1.6	+20.3	-27.4	+0.0	36.2	46.0	-9.8	Horiz
11	250.007M	50.7	+0.9	+12.2	-28.0	+0.0	35.8	46.0	-10.2	Horiz
12	524.760M	43.1	+1.4	+18.6	-27.8	+0.0	35.3	46.0	-10.7	Horiz
13	275.286M	48.2	+1.0	+12.3	-28.0	+0.0	33.5	46.0	-12.5	Horiz
14	307.045M	47.3	+1.1	+13.2	-28.3	+0.0	33.3	46.0	-12.7	Horiz
15	286.404M	47.0	+1.0	+12.7	-28.1	+0.0	32.6	46.0	-13.4	Horiz
16	226.814M	47.8	+0.9	+9.4	-28.0	+0.0	30.1	46.0	-15.9	Horiz
17	201.419M	46.1	+0.9	+8.4	-28.2	+0.0	27.2	43.5	-16.3	Vert

# Mid Channel – 30-1000 MHz – Y Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc. Specification: FCC 15.209

Work Order #: 76248 Date: 04/20/2001
Test Type: Maximized Emissions Time: 16:28:46
Equipment: Ambulatory ECG Transceiver Sequence#: 14

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

# Equipment Under Test (\* = EUT):

	- /-		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

# Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

# Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 16°C 60% 100kPa. **Y axis. Mid Channel.** 

Me	asu	rement Data:	R	eading lis	sted by m	argin.		Τe	st Distanc	e: 3 Meters	1	
				Cable	Bilog	Pream						
#	ŧ	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
		MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
	1	150.118M	60.3	+0.7	+10.6	-27.9		+0.0	43.7	43.5	+0.2	Vert
		QP								Source is s	upport	
										laptop con	puter	
	٨	150.069M	62.2	+0.7	+10.6	-27.9		+0.0	45.6	43.5	+2.1	Vert
										Source is s	upport	
										laptop com	nputer	
	3	149.991M	57.5	+0.7	+10.6	-27.9		+0.0	40.9	43.5	-2.6	Horiz
		QP										
	٨	149.989M	59.4	+0.7	+10.6	-27.9		+0.0	42.8	43.5	-0.7	Horiz
	5	325.236M	55.8	+1.1	+13.8	-28.1		+0.0	42.6	46.0	-3.4	Horiz
		QP										
	٨	325.242M	56.9	+1.1	+13.8	-28.1		+0.0	43.7	46.0	-2.3	Horiz
	7	371.122M	52.6	+1.2	+14.8	-28.1		+0.0	40.5	46.0	-5.5	Horiz

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8	300.192M	54.4	+1.1	+13.1	-28.3	+0.0	40.3	46.0	-5.7	Horiz
9	275.200M	53.9	+1.0	+12.3	-28.0	+0.0	39.2	46.0	-6.8	Horiz
10	375.231M	50.3	+1.2	+15.0	-28.1	+0.0	38.4	46.0	-7.6	Horiz
11	650.499M	43.8	+1.6	+20.3	-27.4	+0.0	38.3	46.0	-7.7	Horiz
12	250.113M	52.3	+0.9	+12.2	-28.0	+0.0	37.4	46.0	-8.6	Horiz
13	306.876M	51.2	+1.1	+13.2	-28.3	+0.0	37.2	46.0	-8.8	Horiz
14	75.062M	52.2	+0.6	+6.2	-28.2	+0.0	30.8	40.0	-9.2	Vert
15	226.624M	53.7	+0.9	+9.4	-28.0	+0.0	36.0	46.0	-10.0	Horiz
16	286.404M QP	49.4	+1.0	+12.7	-28.1	+0.0	35.0	46.0	-11.0	Horiz
٨	286.418M	55.6	+1.0	+12.7	-28.1	+0.0	41.2	46.0	-4.8	Horiz
18	524.808M	41.3	+1.4	+18.6	-27.8	+0.0	33.5	46.0	-12.5	Horiz
19	201.423M	46.3	+0.9	+8.4	-28.2	+0.0	27.4	43.5	-16.1	Vert

# Mid Channel – 30-1000 MHz – Z Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc. Specification: FCC 15.209

Work Order #: 76248 Date: 04/20/2001
Test Type: Maximized Emissions Time: 17:11:49
Equipment: Ambulatory ECG Transceiver Sequence#: 15

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

# Equipment Under Test (\* = EUT):

	- /-		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

# Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

# Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 16°C 60% 100kPa. **Z axis. Mid Channel.** 

Measi	urement Data:	R	eading lis	sted by m	argin.		Τe	est Distanc	e: 3 Meters	1	
			Cable	Bilog	Pream						
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	150.118M	60.3	+0.7	+10.6	-27.9		+0.0	43.7	43.5	+0.2	Vert
	QP								Source is s	upport	
									laptop com	nputer	
^	150.069M	62.2	+0.7	+10.6	-27.9		+0.0	45.6	43.5	+2.1	Vert
									Source is s	upport	
									laptop com	nputer	
3	149.991M	57.5	+0.7	+10.6	-27.9		+0.0	40.9	43.5	-2.6	Horiz
	QP										
^	149.989M	59.4	+0.7	+10.6	-27.9		+0.0	42.8	43.5	-0.7	Horiz
5	300.073M	54.5	+1.1	+13.1	-28.3		+0.0	40.4	46.0	-5.6	Horiz
6	375.323M	52.1	+1.2	+15.0	-28.1		+0.0	40.2	46.0	-5.8	Horiz
7	371.150M	52.1	+1.2	+14.8	-28.1		+0.0	40.0	46.0	-6.0	Horiz

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8	250.010M	52.1	+0.9	+12.2	-28.0	+0.0	37.2	46.0	-8.8	Horiz
9	650.533M	42.2	+1.6	+20.3	-27.4	+0.0	36.7	46.0	-9.3	Horiz
10	75.062M	52.1	+0.6	+6.2	-28.2	+0.0	30.7	40.0	-9.3	Vert
11	325.252M	49.6	+1.1	+13.8	-28.1	+0.0	36.4	46.0	-9.6	Horiz
12	275.253M	48.3	+1.0	+12.3	-28.0	+0.0	33.6	46.0	-12.4	Horiz
13	524.850M	41.2	+1.4	+18.6	-27.8	+0.0	33.4	46.0	-12.6	Horiz
14	306.884M	47.3	+1.1	+13.2	-28.3	+0.0	33.3	46.0	-12.7	Horiz
15	286.467M	46.5	+1.0	+12.7	-28.1	+0.0	32.1	46.0	-13.9	Horiz
16	201.399M	46.8	+0.9	+8.4	-28.2	+0.0	27.9	43.5	-15.6	Vert
17	226.662M	47.3	+0.9	+9.4	-28.0	+0.0	29.6	46.0	-16.4	Horiz

# Mid Channel – 1-10 GHz – X Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc. Specification: FCC 15.209

Work Order #: 76248 Date: 04/23/2001
Test Type: Maximized Emissions Time: 13:40:31
Equipment: Ambulatory ECG Transceiver Sequence#: 22

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

# Equipment Under Test (\* = EUT):

	,		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

# Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

# Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 21°C, 35%, 100kPa. **X axis. Mid Channel.** 

Measu	rement Data:	R	eading lis	sted by m	argin.		Τe	est Distance	e: 3 Meters		
			HP 83	Horn	Cable	Cable					
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	2444.638M	51.4	-39.2	+28.4	+3.2	+4.6	+0.0	48.4	54.0	-5.6	Vert
2	2444.590M	50.4	-39.2	+28.4	+3.2	+4.6	+0.0	47.4	54.0	-6.6	Horiz
3	1832.611M	51.7	-39.1	+27.7	+2.7	+3.9	+0.0	46.9	54.0	-7.1	Vert
4	1832.499M	51.1	-39.1	+27.7	+2.7	+3.9	+0.0	46.3	54.0	-7.7	Horiz
_	1222.433M Ave	49.2	-39.9	+25.2	+2.1	+3.2	+0.0	39.8	54.0	-14.2	Vert
^	1222.433M	60.3	-39.9	+25.2	+2.1	+3.2	+0.0	50.9	54.0	-3.1	Vert
	1222.446M Ave	47.3	-39.9	+25.2	+2.1	+3.2	+0.0	37.9	54.0	-16.1	Horiz
^	1222.446M	58.6	-39.9	+25.2	+2.1	+3.2	+0.0	49.2	54.0	-4.8	Horiz

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# Mid Channel – 1-10 GHz – Y Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc. Specification: FCC 15.209

Work Order #: 76248 Date: 04/23/2001
Test Type: Maximized Emissions Time: 13:20:54
Equipment: Ambulatory ECG Transceiver Sequence#: 20

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

# Equipment Under Test (\* = EUT):

1 I	- ):		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

# Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

# Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. 21°C, 35%, 100kPa. Y axis. Mid Channel.

Measurement Data:			Reading listed by margin.				Τe	est Distance	e: 3 Meters		
			HP 83	Horn	Cable	Cable					
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	2444.729M	50.9	-39.2	+28.4	+3.2	+4.6	+0.0	47.9	54.0	-6.1	Vert
2	2444.360M	50.8	-39.2	+28.4	+3.2	+4.6	+0.0	47.8	54.0	-6.2	Horiz
3	1222.536M	57.1	-39.9	+25.2	+2.1	+3.2	+0.0	47.7	54.0	-6.3	Horiz
4	1832.545M	51.5	-39.1	+27.7	+2.7	+3.9	+0.0	46.7	54.0	-7.3	Horiz
5	1832.447M	50.5	-39.1	+27.7	+2.7	+3.9	+0.0	45.7	54.0	-8.3	Vert
6	1222.430M Ave	53.7	-39.9	+25.2	+2.1	+3.2	+0.0	44.3	54.0	-9.7	Vert
۸	1222.430M	60.7	-39.9	+25.2	+2.1	+3.2	+0.0	51.3	54.0	-2.7	Vert

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# Mid Channel – 1-10 GHz – Z Axis

Test Location: CKC • 110 N Olinda Place • Brea CA, 92823 • 714-993-6112

Customer: VitalCom, Inc. Specification: FCC 15.209

Work Order #: 76248 Date: 04/23/2001
Test Type: Maximized Emissions Time: 13:07:23
Equipment: Ambulatory ECG Transceiver Sequence#: 21

Manufacturer: VitalCom, Inc. Tested By: Stuart Yamamoto

Model: DT-4500

S/N: 006003 (ID# 156)

# Equipment Under Test (\* = EUT):

1 I	- /-		
Function	Manufacturer	Model #	S/N
Ambulatory ECG	VitalCom, Inc.	DT-4500	006003 (ID# 156)
Transceiver*			

# Support Devices:

Function	Manufacturer	Model #	S/N
Computer	Compaq	Contura	7530HPE52263
Test Box	VitalCom, Inc.		

# Test Conditions / Notes:

The EUT along with the support equipment are located on the wooden tabletop. The EUT's serial port is connected to a Test Box that is connected to laptop PC via shielded serial cable. Connected to the EUT is an ECG leadset that is terminated to electrodes. Antennas are integrated with the leads of the leadset. Voltage to EUT supplied by 9 VDC internal battery. **Z axis. Mid Channel.** 

Measu	rement Data:	R	eading lis	sted by m	argin.	Test Distance: 3 Meters					
			HP 83	Horn	Cable	Cable					
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar
	MHz	dΒμV	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant
1	2444.560M	51.4	-39.2	+28.4	+3.2	+4.6	+0.0	48.4	54.0	-5.6	Horiz
2	1222.470M	57.7	-39.9	+25.2	+2.1	+3.2	+0.0	48.3	54.0	-5.7	Horiz
3	2444.571M	50.8	-39.2	+28.4	+3.2	+4.6	+0.0	47.8	54.0	-6.2	Vert
4	1832.390M	51.8	-39.1	+27.7	+2.7	+3.9	+0.0	47.0	54.0	-7.0	Horiz
5	1832.506M	50.8	-39.1	+27.7	+2.7	+3.9	+0.0	46.0	54.0	-8.0	Vert
6	1222.465M Ave	50.7	-39.9	+25.2	+2.1	+3.2	+0.0	41.3	54.0	-12.7	Vert
۸	1222.465M	58.9	-39.9	+25.2	+2.1	+3.2	+0.0	49.5	54.0	-4.5	Vert

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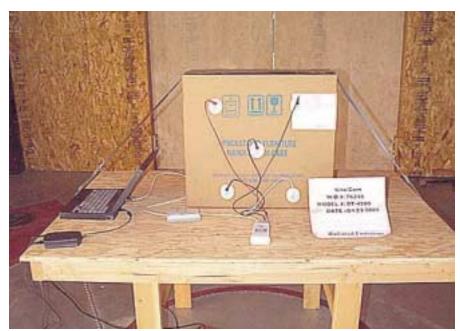
# TEST EQUIPMENT USED – RADIATED EMISSIONS-DIGITAL SECTION OF TRANSCEIVER

Equipment	Asset #	Manufacturer	Model #	Serial #	Cal Date	Cal Due
Spectrum Analyzer	m Analyzer 02467 HP		E7405A	US40240225	041001	041002
Spectrum Analyzer	02462	HP	8568B	2928A04874	032901	032902
QP Adapter	02325	HP	85650A	2521A00932	032901	032902
Bilog Antenna	00851	Schaffner- Chase EMC	CBL6111C	2629	090500	090501
Bicon Antenna	00306	A.H. System	SAS- 200/540	220	092000	092001
Log Periodic Antenna	00300	A.H. System	SAS- 200/516	331	092000	092001
Pre-amp	02320	HP	8447D	2443A03665	020601	020602
Antenna cable (3 meter site D)	NA	Andrew	LDF1-50	Cable#20	091500	091501
Antenna extension cable HF (70ft)	NA	Andrew	LDF1-50	Cable#18	091500	091501
Horn Antenna	01646	EMCO	3115	9603-4683	022801	022802
Magnetic Loop Antenna	00314	EMCO	6502	2014	081700	081701
Microwave Pre-amp	00787	HP	83017A	3123A00282	030801	030802

ANALYZER BANDWIDTH SETTINGS DURING 15.209 RADIATED EMISSIONS TESTING								
TEST	BEGINNING FREQUENCY	ENDING FREQUENCY	BANDWIDTH SETTING					
RADIATED EMISSIONS	7 MHz	30 MHz	9 kHz					
RADIATED EMISSIONS	30 MHz	1000 MHz	120 kHz					
RADIATED EMISSIONS	1 GHz	10 GHz	1 MHz					

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# $\begin{array}{c} \textbf{TEST SETUP PHOTOGRAPHS} - \textbf{RADIATED EMISSIONS-DIGITAL SECTION OF} \\ \textbf{TRANSCEIVER} \end{array}$



Front View



Back View

# APPENDIX A EXPLANATION OF DATA SHEET HEADINGS

Page 83 of 84 Report No.: FC01-035A A typical data sheet will display the following in column format:

Ī					Bilog	Log 3						
				DC B1	Mag L	Bicon						
	#	Freq	Rdng	HP 83	Horn	Pream	Cable	Dist	Corr	Spec	Margin	Polar
		MHz	dΒμΫ	dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant

# **Heading Explanation of Heading**

# Reading number.

Freq The frequency in MHz of the obtained reading.

Rdng Reading obtained on the spectrum analyzer in  $dB\mu V$ .

DC Bl DC Block factor in dB.

Bilog Biconilog (or bilog) antenna factor in dB.

Pream Preamplifier factor or gain in dB.

Cable Cable loss in dB of the coaxial cable on the OATS and/or the cable loss in dB of

the high frequency coaxial cable on the OATS.

HP 83 Microwave preamplifier factor or gain in dB.

Mag L Magnetic loop antenna factor in dB.

Horn Horn antenna factor in dB.

Dist Distance factor in dB used when testing at a different test distance than the one

stated in the spec.

Corr Corrected reading in dBµV/m (field strength).

Spec Specification limit (dB) stated in the FCC regulations.

Margin The closeness to the specified limit in dB; + is over and - is under the limit.

Polar Polarity of the antenna with respect to earth.

Log 3 Log periodic antenna factor in dB.

Bicon Bicon antenna factor in dB.

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