U.S. TECH

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Data Critical Corporation
FCC Part 95 Application
Model DR-10110

February 25, 2003

MEASUREMENT/TECHNICAL REPORT

COMPANY NAME: **Data Critical Corporation**

MODEL: **DR-10110**

FCC ID: **BQI02DR-10110**

DATE: **February 25, 2003**

This report concerns (check one): Original grant__X___
Class II change ____

Equipment type: **Low Power Transmitter (for Biomedical Applications)**

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? yes_____ No_X_

If yes, defer until:_____
date

__N.A.__ agrees to notify the Commission by__N.A.____
date
of the intended date of announcement of the product so that the grant can be issued on that date.

Report prepared by:

United States Technologies, Inc.
3505 Francis Circle
Alpharetta, GA 30004

Phone Number: (770) 740-0717
Fax Number: (770) 740-1508

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GENERAL INFORMATION

GENERAL INFORMATION

Product Description

The Equipment Under Test (EUT) is a Data Critical Corporation, DR-10110. The DR-10110 is a wireless Access Point (AP) designed for use in medical monitoring applications. The DR-10110 receives patient monitoring data from similar radios attached to the patients in that hospital. The DR-10110 is linked to other DR-10110's, DR-10100 or DR-10000's through a 10Base-T Ethernet backbone. This backbone allows the AP's to pass patient data back to the end user of the system - a nurses monitoring station. The DR-10110 is composed of a 1400 MHz wireless transceiver and Ethernet conversion circuitry that passes data from the transceiver to the Ethernet backbone.

The DR-10110 may operate with three different types of antennas: a 0 dBi monopole to provide omni-directional coverage, a 3 dB omnidirectional antenna, and a 1.5 dB OEM antenna. The unit requires external DC power but has its own internal voltage regulation. The DR-10110 is self contained in a plastic package and is designed to be installed on the ceiling of a hospital hallway.

Related Submittal(s)/Grant(s)

Additionally, the EUT will be used with patient monitor transceivers FCC ID: BQI03DT-4700.

SECTION 2

TESTS AND MEASUREMENTS

TESTS AND MEASUREMENTS

Configuration of Tested System

Since Part 95 stipulates radiated field strength limits and not dBc limits. Therefore as allowed by 2.947(a)(3), the sample was tested per ANSI C63.4, Methods of Measurement from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz (1992). Please note that the FCC has also shown a history of accepting other applications using ANSI C63.4 as the test methodology for devices tested under 95.1115. Conducted and radiated emissions data were taken with the test receiver or spectrum analyzer's resolution bandwidth adjusted to 9 kHz and 120 kHz, respectively. All measurements are peak unless stated otherwise. The video filter associated with the spectrum analyzer was off throughout the evaluation process. Interconnecting cables were manipulated as necessary to maximize emissions. A block diagram of the tested system is shown in Figure 1. Test configuration photographs for spurious and fundamental emissions are shown in Figure 2.

Test Facility

Testing was performed at US Tech's measurement facility at 3505 Francis Circle, Alpharetta, GA. This site has been fully described and submitted to the FCC, and accepted in their letter marked 31040/SIT. Additionally this site has also been fully described and submitted to Industry Canada (IC), and has been approved under file number IC2982.

Modifications

To bring the EUT into compliance with FCC Part 95 limits for the transmitter portion of the EUT and the Part 15 Digital Device Requirements, the following modifications were made (See following letter from Cirronet):

CIRRONET

12/13/02

To: Charlie Miller
From: Mark Tucker
Re: work instructions for SNAP1400 hand-modifications

The following is a list of all internal modifications needed to bring the SNAP1400 into compliance with FCC emission limits.

Change R32 to 330 ohm.

Add a 0.01 uF to the VCC pin of Y1.

Add a 330 ohm resistor in series with output of Y1.

Add a shunt 56 pF capacitor to ground at "cold" side of the 330 ohm resistor in series with Y1.

Insert series Z-Beads in line with pins numbers 4, 5 and 7 of JP6. Part number of bead is ETC1608-221.

Add 0.01 uF cap between pins 7 and 8 of JP6.

Add 0.01 uF cap between pins 7 and 8 of JP5.

Change R64 to 330 ohms.

Add a 0.01 uF to ground from pin 14 of U4.

Add a 0.01 uF to ground from pin 14 of U7.

Add a termination consisting of two 50 ohm resistors and one 0.01 uF capacitor to pins 15 and 16 of U4.

Add a termination consisting of two 50 ohm resistors and one 0.01 uF capacitor to pins 15 and 16 of U7.

(See also Todd Lafon's hand-drawn diagrams indicating mechanical placement of above modifications.)

Important note to installer:

In order to comply with FCC rules, the snap-on ferrite bead (PN: 28A2024-0A0) included in this packing box must be attached to the DOWNLINK Ethernet cable whenever that cable is being used. The bead should be snapped on to the cable as close as possible to the Ethernet connector. Any questions concerning the use and placement of this bead should be directed to Al Patrick, Senior Compliance Engineer, at (678) 684-2000.

12/13/2002

Test Equipment

Table 2 describes test equipment used to evaluate this product.

FIGURE 1a

TEST CONFIGURATION

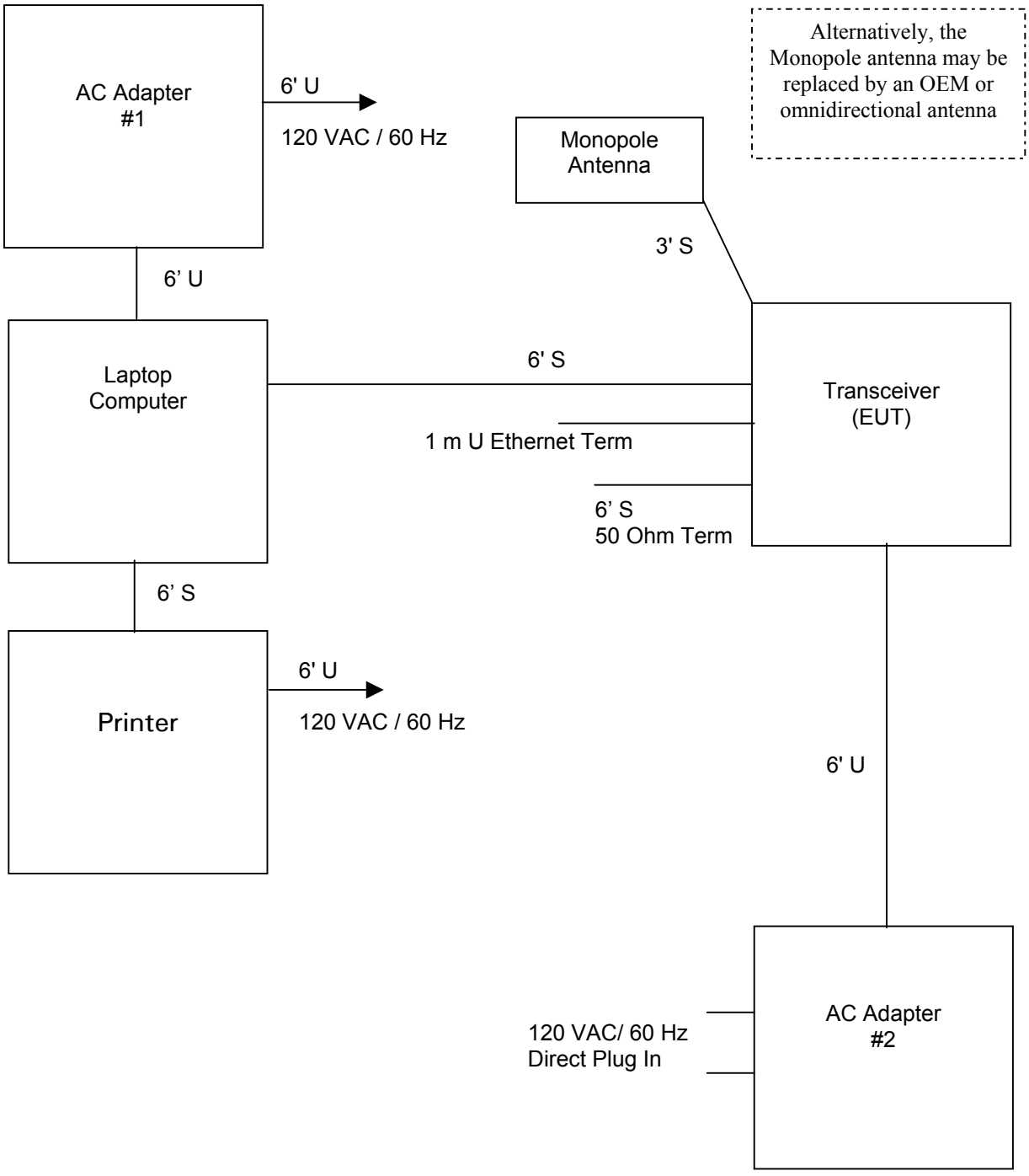


FIGURE 1b

TEST CONFIGURATION

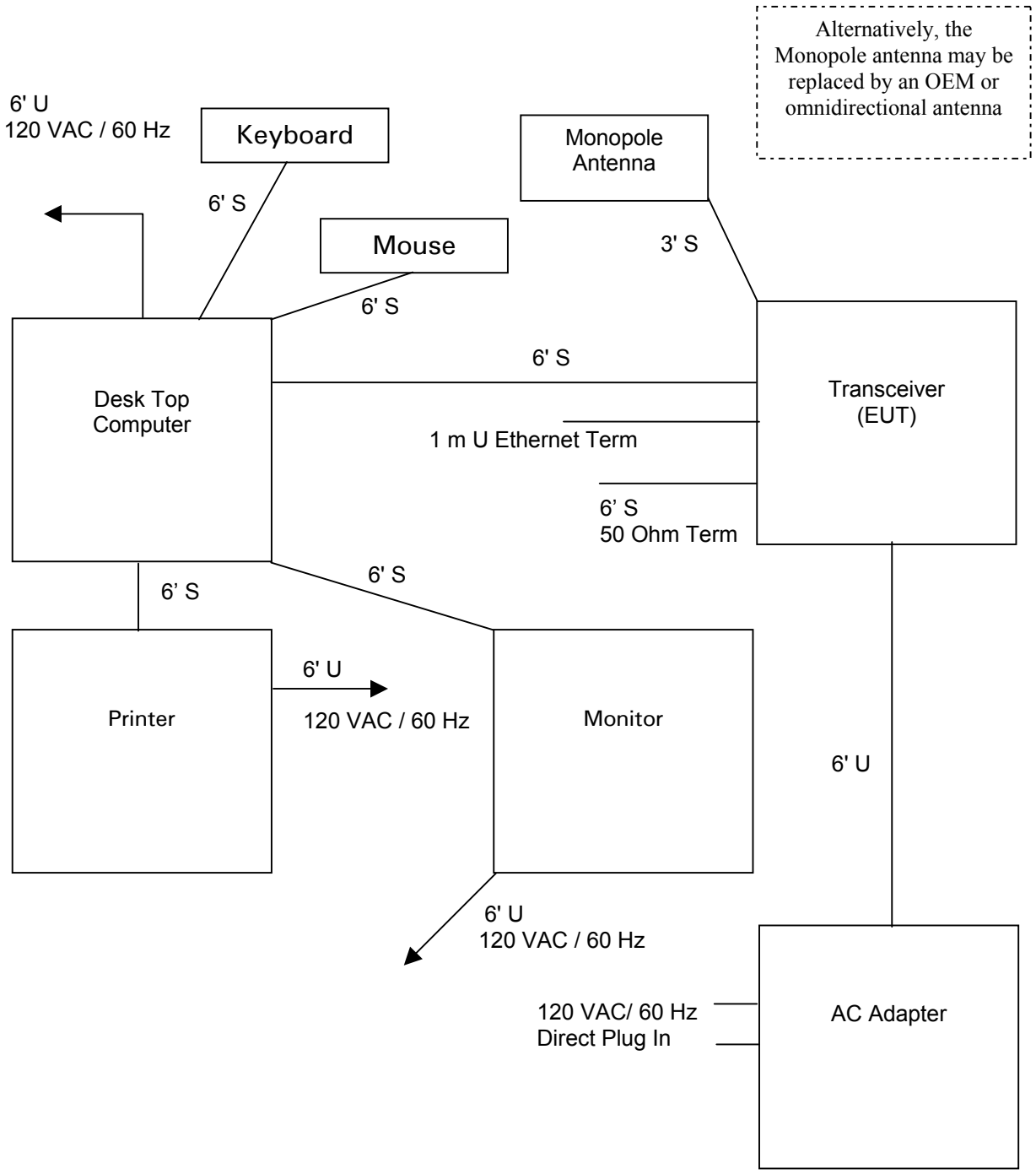


FIGURE 2a

Photograph(s) for Fundamental, Spurious and Digital Devices Emissions
Monopole Configuration

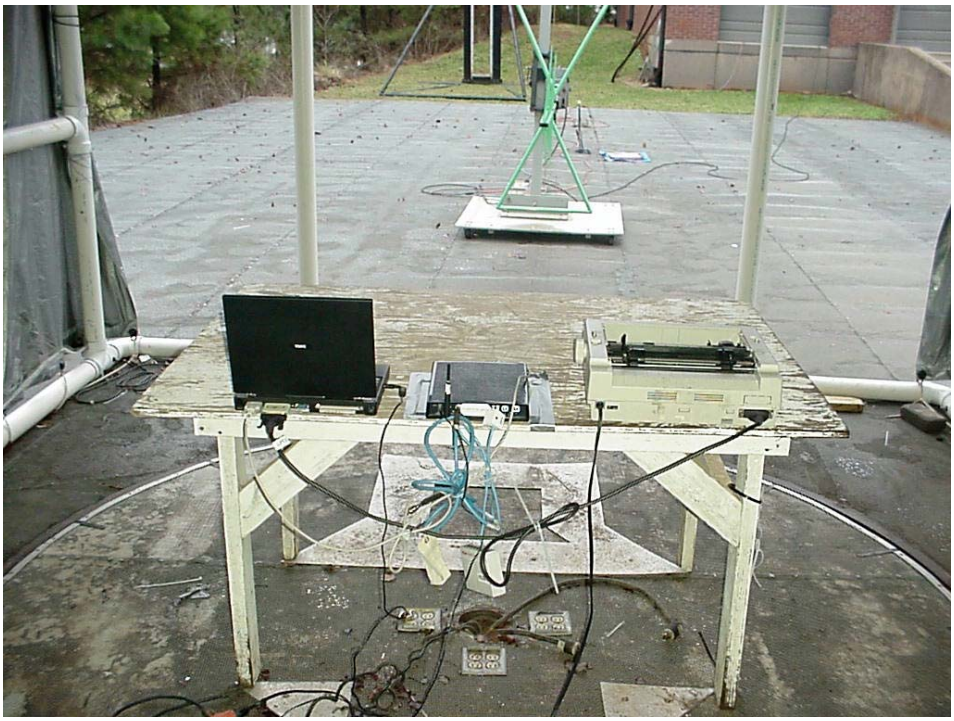


FIGURE 2b

Photograph(s) for Fundamental, Spurious and Digital Devices Emissions Omnidirectional Configuration

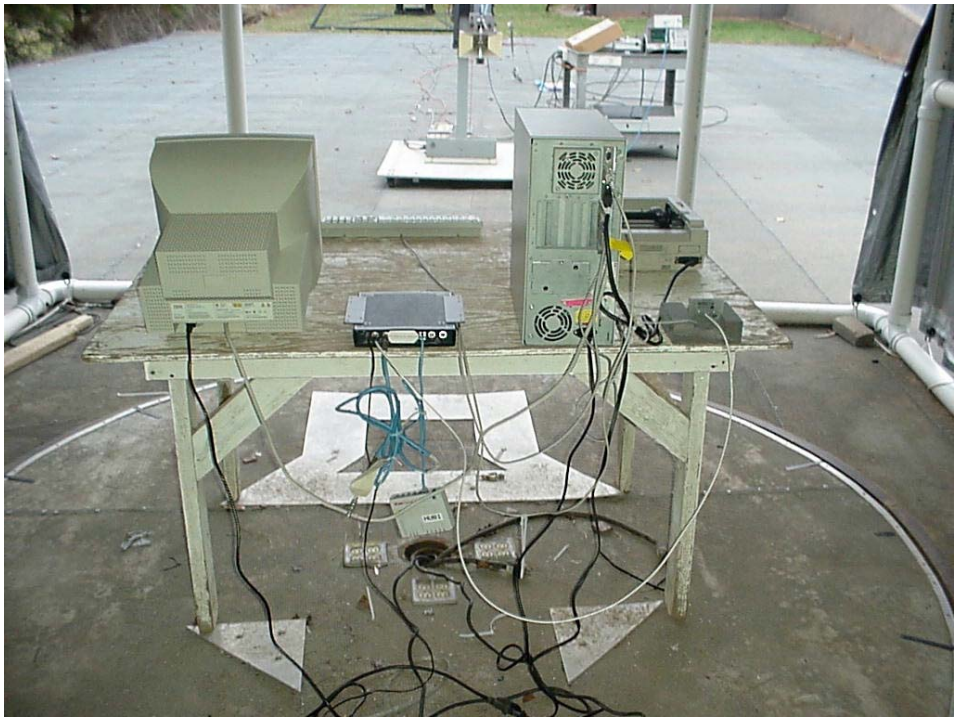


FIGURE 2c

Photograph(s) for Fundamental, Spurious and Digital Devices Emissions
OEM Configuration

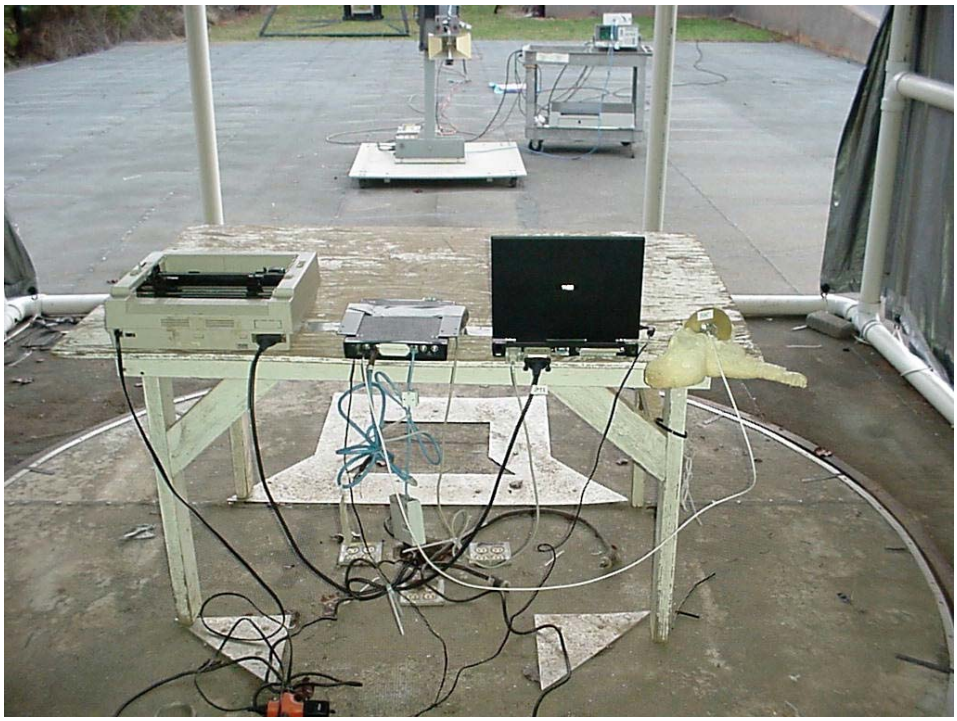


FIGURE 2c

Photograph(s) for Conducted Emissions

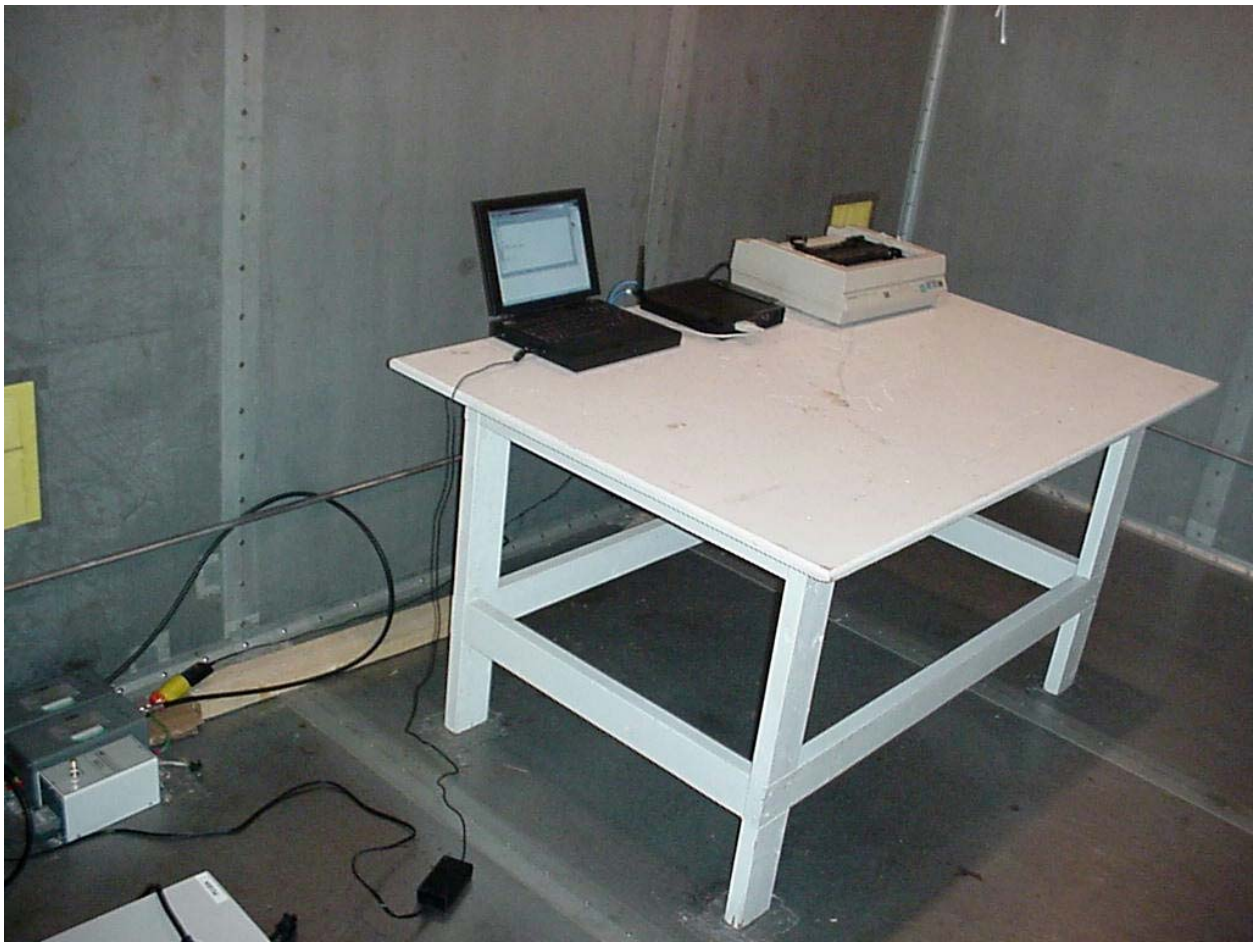


TABLE 1a

EUT and Peripherals for Laptop Configuration

PERIPHERAL MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID:	CABLES P/D
Transmitter Data Critical Corporation (EUT)	DR-10110	None	BQI00DR-10110 (Pending)	6' S 6' S 50 Ohm Term. 1 m U Ethernet Term
Antenna Nearson	OEM181AM (Monopole, 0 dBi)	None	None	None
Antenna Ant Enex	OEM2164 (Stub, 3 dBi)	None	None	6' S each
Antenna Cushhcraft	S1392BT60SMM (Stub, 1.5 dBi)	None	None	6' S each
AC Adapter #1 Dell	55522	P38312318777	N/A	6' U Power Cord
AC Adapter #2 Volgen	SPU10R-2	None	N/A	6'U Direct Plug In
Laptop Computer Dell	Inspiron 3200	TS3043	IIRTS30HT	6' U
Printer Panasonic	KX-P1180	1CKARQ99923	ACJ326KX-P1180	6' S 6' U Power Cord

TABLE 1b

EUT and Peripherals for Desktop Configuration

PERIPHERAL MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID:	CABLES P/D
Transmitter Data Critical Corporation (EUT)	DR-10110	None	BQI00DR-10110 (Pending)	6' S 6' S 50 Ohm Term. 1 m U Ethernet Term
Antenna Nearson	OEM181AM (Monopole, 0 dBi)	None	None	None
Antenna Ant Enex	OEM2164 (Stub, 3 dBi)	None	None	6' S each
Antenna Cushhcraft	S1392BT60SMM (Stub, 1.5 dBi)	None	None	6' S each
AC Adapter Volgen	SPU10R-2	None	N/A	6'U Direct Plug In
Monitor IBM	Unknown	Unknown	Unknown	6' S 6' U Power Cord
Keyboard	Unknown	Unknown	Unknown	6' S
Mouse Hewlett Packard	M-S34	LZA74405157	DZL211028	6' S
Desk Top Computer Hewlett Packard	NetServer E40	U580300605	DoC Approved	6' U Power Cord
Printer Panasonic	KX-P1180	1CKARQ99923	ACJ326KX-P1180	6' S 6' U Power Cord

TABLE 2

TEST INSTRUMENTS

TYPE	MANUFACTURER	MODEL	SN.
SPECTRUM ANALYZER	HEWLETT-PACKARD	8593E	3205A00124
SPECTRUM ANALYZER	HEWLETT-PACKARD	8558B	2010A09206
S A DISPLAY	HEWLETT-PACKARD	853A	2404A02387
COMB GENERATOR	HEWLETT-PACKARD	8406A	1632A01519
RF PREAMP	HEWLETT-PACKARD	8447D	1937A03355
RF PREAMP	HEWLETT-PACKARD	8449B	3008A00480
HORN ANTENNA	EMCO	3115	3723
BILOG	EMCO	CBL6112B	2584
LISN	SOLAR ELE.	8028	910495 & 910494

Antenna Descriptions

The Model DR-10110 may be used with the following antennas.

MANUFACTURER	MODEL	TYPE	NOMINCLATURE USED DURING TESTING	GAIN dBi
Nearson	OEM181AM	Monopole	Monopole	0
Ant Enex	OEM2164	Stub Antenna	OEM	+3
Cushcraft	S1392BT605MM	Stub Antenna	Omnidirection	+1.5

The EUT and antenna incorporate standard SMA connectors. Due to the type of installation, this unit will only be professionally installed.

The DR-10110 has been designed exclusively for Data Critical Corporation. Data Critical Corporation designs and markets medical monitoring equipment to be used in hospital environments and is the only marketer of this product and is the sole installer. The units will not be marketed to the general public.

The DR-10110 will be installed in the hallway ceilings of hospitals. These units will receive monitoring data from similar radios that are attached to patients in the hospital. The system is very complicated and expensive (generally greater than $100k for a complete installation) and relies on professional installation and upkeep. Trained Data Critical Corporation personnel will be installing these units and will be solely responsible for their operation.

Frequency Range of Fundamental(s) (47 CFR 95.630 & 95.1115(d))

The EUT may operate in the frequency bands specified below:

608-614 MHz
1395-1400 MHz
1427-1432 MHz - (See most recent version of Part 95)

The EUT is designed to operate on the following frequency list:

WIT1400 Schematic and SNAP 1400 Schematic
13

Date: 1/30/2003

WIT 1400 channel assignments

00	1395.4 MHz
01	1395.5 MHz
02	1395.6 MHz
03	1395.7 MHz
04	1395.8 MHz
05	1396.9 MHz
06	1396.0 MHz
07	1396.1 MHz
08	1396.2 MHz
09	1396.3 MHz
0a	1396.4 MHz
0b	1396.5 MHz
0c	1396.6 MHz
0d	1396.7 MHz
0e	1396.8 MHz
0f	1396.9 MHz
10	1397.0 MHz
11	1397.1 MHz
12	1397.2 MHz
13	1397.3 MHz
14	1397.4 MHz
15	1397.5 MHz
16	1397.6 MHz
17	1397.7 MHz
18	1397.8 MHz
19	1397.9 MHz
1a	1398.0 MHz
1b	1398.1 MHz
1c	1398.2 MHz
1d	1398.3 MHz
1e	1398.4 MHz
1f	1398.5 MHz
20	1398.6 MHz
21	1398.7 MHz
22	1398.8 MHz
23	1398.9 MHz
24	1399.0 MHz
25	1399.1 MHz
26	1399.2 MHz
27	1399.3 MHz
28	1399.4 MHz
29	1399.5 MHz
2a	1399.6 MHz
2b	1427.4 MHz
2c	1427.5 MHz
2d	1427.6 MHz
2e	1427.7 MHz
2f	1427.8 MHz
30	1427.9 MHz
31	1428.0 MHz
32	1428.1 MHz
33	1428.2 MHz
34	1428.3 MHz
35	1428.4 MHz
36	1428.5 MHz
37	1428.6 MHz
38	1428.7 MHz
39	1428.8 MHz
3a	1428.9 MHz
3b	1429.0 MHz
3c	1429.1 MHz

Frequency Range of Fundamental(s) (47 CFR 95.1115(d)(1))

In the 1395-1400 MHz and 1427-1432 MHz bands, no specific channels are specified. Wireless medical telemetry devices may operate on any channel within the bands authorized for wireless medical telemetry use in this part.

Field Strength of Fundamental Emission (47 CFR 95.639(g) & 95.1115(a))

Measurements were made using a peak detector (RBW = VBW = 1MHz). Field strength of the peak fundamental emission is shown in Tables 3a through 3c. The radio was checked for all 3 antennas for a typical low, middle, and high channel with the radio hop-stopped and transmitting continuously on a single channel. Only the worse case results are shown for each low, middle, and high transmit channels.

Part 95.1115(a)(2) stipulates using and average detector. However the emissions of this device are considered pulsed in nature due to the frequency hopping nature of the TX. The FCC has historically not accepted average measurements on pulsed transmitters. Therefore the measurements device was corrected for duty cycle as normally acceptable to the FCC for testing of other types of transmitter with pulsed emissions.

Duty Cycle Correction During 100 msec:

The system is designed that the system hops at 35 msec per channel. The system will only be on one channel in any 100 msec period of time. During this 35 msec per channel, each transmitter is allotted only a small duration of this period (5 msec max).

Therefore the worse case duty cycle is:

Duty Cycle Correction = 20 log (0.05) = -26.0 dB

TABLE 3a

FIELD STRENGTH OF FUNDAMENTAL EMISSION

Test Date: March 10, 2003
UST Project: 02-0397
Customer: Data Critical Corporation
Model: DR-10110

Low Channel - Monopole Antenna
Highest Emission measured from Radio

FREQ. (MHz)	TEST DATA (dBm) @ 3m*	ANTENNA FACTOR + CABLE ATTENUATION	RESULTS (uV/m) @ 3m	FCC LIMITS (uV/m) @ 3m
1395.4	-31.5	29.4	153,815	740,000

*** - Readings adjusted by duty cycle = 20 log (0.05) = -26.0 dB**

SAMPLE CALCULATIONS:

RESULTS uV/m @ 3m = Antilog ((-31.5 +29.4 + 107)/20) = 153,815
CONVERSION FROM dBm TO dBuV = 107 dB

Test Results
Reviewed By: _____ **Name:** David Blethen

TABLE 3b

FIELD STRENGTH OF FUNDAMENTAL EMISSION

Test Date: March 10, 2003
UST Project: 02-0397
Customer: Data Critical Corporation
Model: DR-10110

Mid Channel- Monopole Antenna
Highest Emission measured from Radio

FREQ. (MHz)	TEST DATA (dBm) @ 3m*	ANTENNA FACTOR + CABLE ATTENUATION	RESULTS (uV/m) @ 3m	FCC LIMITS (uV/m) @ 3m
1399.6	-32.7	29.4	180,717	740,000

*** - Readings adjusted by duty cycle = 20 log (0.05) = -26.0 dB**

SAMPLE CALCULATIONS:

RESULTS uV/m @ 3m = Antilog ((-32.7 +29.4 + 107)/20) = 180,717
CONVERSION FROM dBm TO dBuV = 107 dB

Test Results
Reviewed By: _____ **Name:** David Blethen

TABLE 3c

FIELD STRENGTH OF FUNDAMENTAL EMISSION

Test Date: March 10, 2003
UST Project: 02-0397
Customer: Data Critical Corporation
Model: DR-10110

High Channel - Monopole Antenna
Highest Emission measured from Radio

FREQ. (MHz)	TEST DATA (dBm) @ 3m*	ANTENNA FACTOR + CABLE ATTENUATION	RESULTS (uV/m) @ 3m	FCC LIMITS (uV/m) @ 3m
1429.1	-31.4	29.5	175,792	740,000

*** - Readings adjusted by duty cycle = 20 log (0.05) = -26.0 dB**

SAMPLE CALCULATIONS:

RESULTS uV/m @ 3m = Antilog ((-31.4 +29.5 + 107)/20) = 175,792
CONVERSION FROM dBm TO dBuV = 107 dB

Test Results
Reviewed By: _____ **Name:** David Blethen

Field Strength Of Spurious Emissions (47 CFR 95.1115(b))

Measurements were made using a quasi-peak/peak detector below 960 MHz and an average detector above 960 MHz. Field strength of Spurious Emissions are shown in Tables 4a through 4b and Figure 3. For comparison to the average limits, duty cycle corrections were made as shown below.

Measurements were made with the antenna port terminated by 50 Ohms.

Part 95.1115(b)(2) stipulates using and average detector. However the emissions of this device are considered pulsed in nature due to the frequency hopping nature of the TX. The FCC has historically not accepted average measurements on pulsed transmitters. Therefore the measurements device was corrected for duty cycle as normally acceptable to the FCC for testing of other types of transmitter with pulsed emissions.

Duty Cycle Correction During 100 msec:

The system is designed that the system hops at 35 msec per channel. The system will only be on one channel in any 100 msec period of time. During this 35 msec per channel, each transmitter is allotted only a small duration of this period (5 msec max).

Therefore the worse case duty cycle is:

Duty Cycle Correction = 20 log (0.05) = -26.0 dB

FCC ID: BQI02DR-10110

TABLE 4a

FIELD STRENGTH OF SPURIOUS EMISSIONS

Test Date: February 5, 2003
UST Project: 02-0397
Customer: Data Critical Corporation
Model: DR-10110

Peak Measurements

FREQ. (GHz.)	TEST DATA (dBm) @ 3m	ANTENNA FACTOR + CABLE ATTENUATION - AMP GAIN	RESULTS (uV/m) @ 3m	PEAK FCC LIMITS (uV/m) @ 3m
2.85855	-53.9	0.9	497.4	5000
4.28745	-50.4	5.9	1334.3	5000
5.71695	-44.1	9.1	3999.8	5000
7.14580	-54.2	10.6	1488.7	5000

SAMPLE CALCULATIONS:

RESULTS uV/m @ 3m = Antilog ((-53.9 + 0.9 + 107)/20) = 497.4
CONVERSION FROM dBm TO dBuV = 107 dB

Test Results
Signature: David B. Blethen **Name:** David Blethen

TABLE 4b

FIELD STRENGTH OF SPURIOUS EMISSIONS

Test Date: December 11, 2002
UST Project: 02-0397
Customer: Data Critical Corporation
Model: DR-10110

Average Measurements

FREQ. (GHz.)	TEST DATA (dBm) @ 3m*	ANTENNA FACTOR + CABLE ATTENUATION - AMP GAIN	RESULTS (uV/m) @ 3m	AVERAGE FCC LIMITS (uV/m) @ 3m
2.85855	-79.9	0.9	24.9	500
4.28745	-76.4	5.9	66.9	500
5.71695	-70.1	9.1	200.5	500
7.14580	-80.2	10.6	74.6	500

*** - Readings adjusted by duty cycle = 20 log (0.05) = -26.0 dB**

SAMPLE CALCULATIONS:

RESULTS uV/m @ 3m = Antilog ((-79.9 + 0.9 + 107)/20) = 24.9
CONVERSION FROM dBm TO dBuV = 107 dB

Test Results Signature: David B. Blethen **Name: David Blethen**

FIGURE 3

SPURIOUS EMISSIONS 47 CFR 95.1115(b)

Plots Not Available

Radiated Digital Device Emissions (47 CFR 15.109a)

Radiated emissions were evaluated from 30 MHz to 6.5 GHz with the EUT set to a receive mode of operation. Measurements were made with the analyzer's bandwidth set to 120 kHz for measurements below 1 GHz and 1 MHz for measurements above greater than or equal to 1 GHz. Results of these emissions are shown in Tables 5a and 5b.

TABLE 5a

CLASS B
RADIATED EMISSIONS

Test Date: December 10, 2002
UST Project: 02-0397
Customer: Data Critical Corporation
Model: DR-10110

Measurements 30 MHz – 1 GHz
(Receive Mode)

FREQ. (MHz)	TEST DATA (dBm) @ 3m	ANTENNA FACTOR + CABLE ATTEN.	RESULTS (uV/m) @ 3m	LIMITS (uV/m) @ 3m	MARGIN BELOW LIMIT (dB)
200.0	-77.0*	13.1	142.9	150.0	0.4
295.0	-81.0*	17.5	150.3	200.0	2.5
320.0	-80.5*	18.5	177.4	200.0	1.0
325.0	-82.0*	18.7	153.1	200.0	2.3
420.0	-86.0*	21.9	139.6	200.0	3.1
740.0	-90.0*	27.0	158.5	200.0	2.0

*** = Quasi-Peak Measurement**

Note: All measurements above are Quasi-Peak measurements. All data is listed for the worse case configurations with the monopole.

SAMPLE CALCULATIONS:

RESULTS uV/m @ 3m =
Antilog ((-77.0 + 13.1 + 107)/20) = 142.9
CONVERSION FROM dBm TO dBuV = 107 dB

Test Results
Signature:  **Name: David Blethen**

TABLE 5b

CLASS B
RADIATED EMISSIONS

Test Date: December 11, 2002
UST Project: 02-0397
Customer: Data Critical Corporation
Model: DR-10110

Peak Measurements >1 GHz

FREQ. (GHz)	TEST DATA (dBm) @ 3m	AMP GAIN (dB)	ANT. FACTOR (dB)	CABLE LOSS (dB)	RESULTS (uV/m) @ 3m	FCC LIMITS (uV/m) @ 3m	MARGIN BELOW LIMIT (dB)
1.25015	-53.3	35.3	26.3	2.8	238.4	5000	26.4

Note: Since the peak measurements met with average limits (500 uV/m), average measurements were not performed.

SAMPLE CALCULATIONS:

RESULTS uV/m @ 3m =
Antilog ((-52.9 - 35.3 + 26.3 + 2.8 + 107)/20) = 238.4
CONVERSION FROM dBm TO dBuV = 107 dB

Test Results
Signature: David R. Blethen **Name: David Blethen**

Power Line Conducted Emissions for Digital Device, Transmitter, and Receiver (FCC Section 15.107)

The conducted voltage measurements have been carried out in accordance with FCC Section 15.107, with a spectrum analyzer connected to a LISN and the EUT placed into an continuous transmit or a continuous mode of receive. Since no difference was noted due to transmit or receive operation, only one set of results is shown. The results are given in Tables 6a - 6b.

TABLE 6a

CONDUCTED EMISSIONS DATA

CLASS B

UST Project: 02-0397
Customer: Data Critical Corporation
Model: DR-10110

PHASE MEASUREMENT (Peak/QP versus Average Limits)

FREQ. (MHz)	TEST DATA (dBuV) PHASE	LISN LOSS (dB) PHASE	CABLE FACTOR (dB)	RESULTS (dBuV) PHASE	EN55022 CLASS B LIMITS (uV)	MARGIN BELOW LIMIT (dB) PHASE
0.68	34.6	0.1	0.1	34.8	46.0	11.2
3.1	30.4	0.1	0.4	30.9	46.0	15.1
6.3	28.6	0.1	0.4	29.1	50.0	20.9
14.2	33.4	0.1	0.6	34.1	50.0	15.9
19.9	25.7	0.1	0.7	26.5	50.0	23.5
27.2	37.8	0.1	0.8	38.7	50.0	11.3

*** - Note: CISPR limits have been applied since they are deemed worse case**

SAMPLE CALCULATIONS:
RESULTS dBuV = Antilog ((34.6 + 01. + 0.1) = 34.8

Test Date: December 19, 2002

Tested Results
Signature: David R. Blethen **Name: David Blethen**

TABLE 6b

CONDUCTED EMISSIONS DATA

CLASS B

UST Project: 02-0397
Customer: Data Critical Corporation
Model: DR-10110

NEUTRAL MEASUREMENT (Peak/QP versus Average Limits

FREQ. (MHz)	TEST DATA (dBuV) PHASE	LISN LOSS (dB) PHASE	CABLE FACTOR (dB)	RESULTS (dBuV) PHASE	EN55022 CLASS B LIMITS (uV)	MARGIN BELOW LIMIT (dB) PHASE
1.5	28.2	0.1	0.2	28.5	46.0	17.5
2.0	27.5	0.1	0.2	27.8	46.0	18.2
4.3	34.8	0.1	0.3	35.2	46.0	10.8
6.3	27.2	0.1	0.4	27.7	50.0	22.3
11.8	30.3	0.1	0.6	31.0	50.0	19.0
27.1	39.1	0.1	0.8	40.0	50.0	10.0

*** - Note: CISPR limits have been applied since they are deemed worse case**

SAMPLE CALCULATIONS:
RESULTS dBuV = Antilog ((28.2 + 0.1 + 0.2) = 28.5

Test Date: December 19, 2002

Tested Results
Signature: David P. Blethen **Name: David Blethen**

Emissions Type (47 CFR Section 95.631(i), 95.1115(c), and 95.1117)

A wireless medical telemetry device may transmit any emission type appropriate for communications in this service, except for video and voice. Waveforms such as electrocardiograms (ECG's) are not considered video.

Basic Description of Transmitter Emissions
The EUT utilizes spread spectrum (frequency hopping) type technology and GFSK (Gaussian filtered, Frequency Shift Keying) as its modulation approach.

The devices emissions designator according to the manufacturer is 600KFXD.

Frequency Stability (47 CFR Section 95.1115(e))

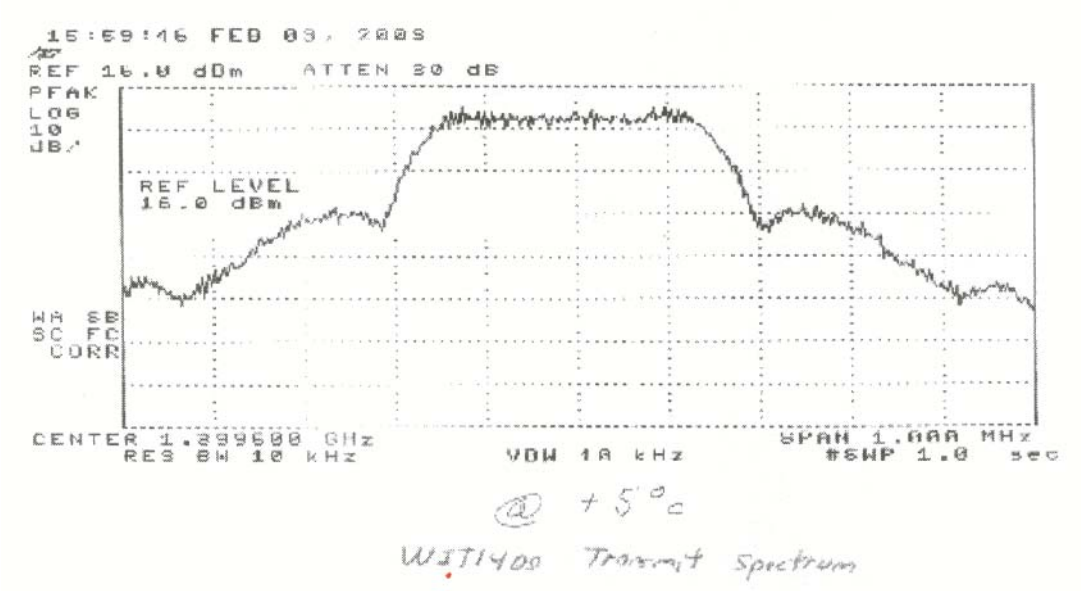
Manufacturers of wireless medical telemetry devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all of the manufacturer's specified conditions.

The following plots were provided by the manufacturer to show the fundamental under various conditions.

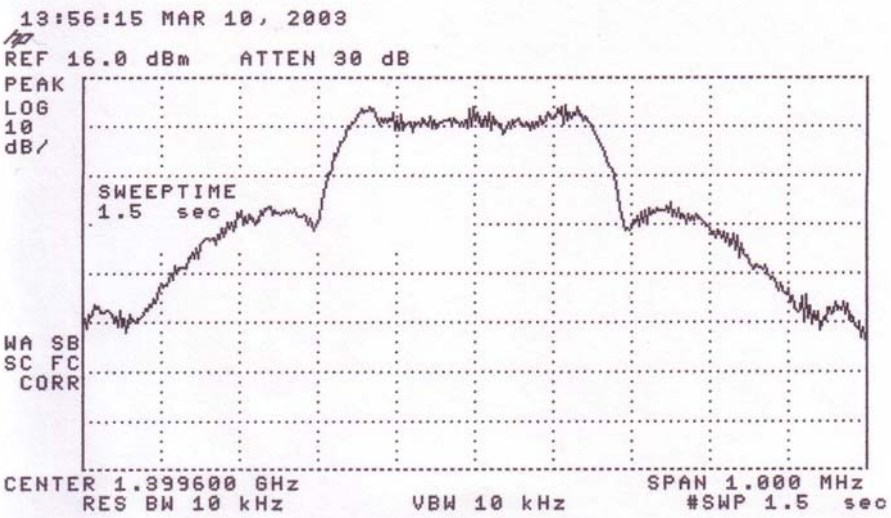
Range Specified by Manufacturer: +5 to +40 degrees C

1) nominal supply voltage and 5 degrees C
2) nominal supply voltage and 15 degrees C
3) nominal supply voltage and 25 degrees C
4) nominal supply voltage and 35 degrees C
5) nominal supply voltage and 40 degrees C

PLOT 1
(nominal supply voltage and 5 degrees C)



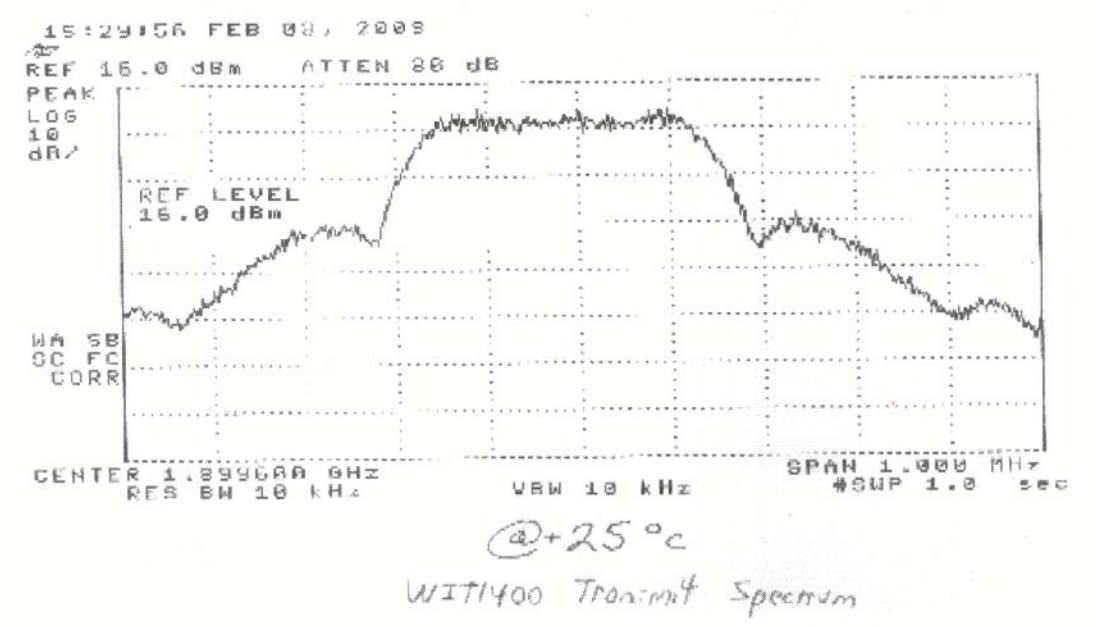
PLOT 2
(nominal supply voltage and 15 degrees C)



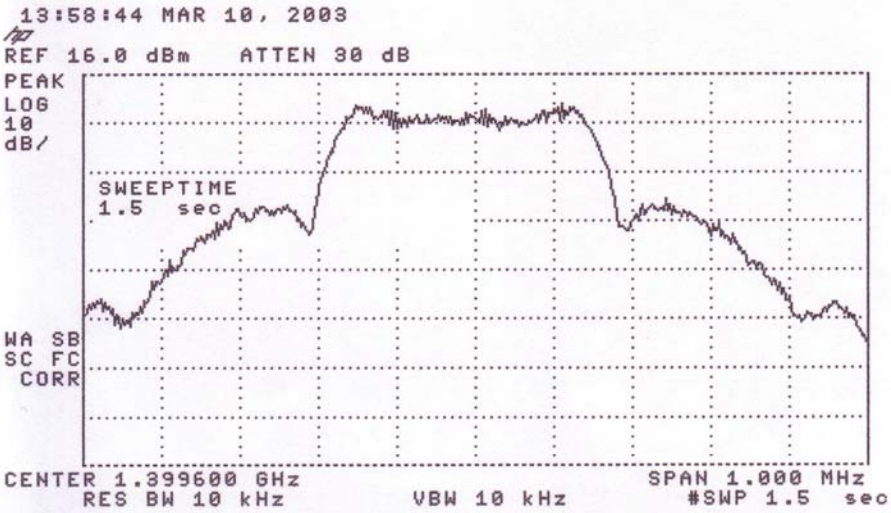
@+15°c

WIT1400 Transmit Spectrum

PLOT 3
(nominal supply voltage and 25 degrees C)



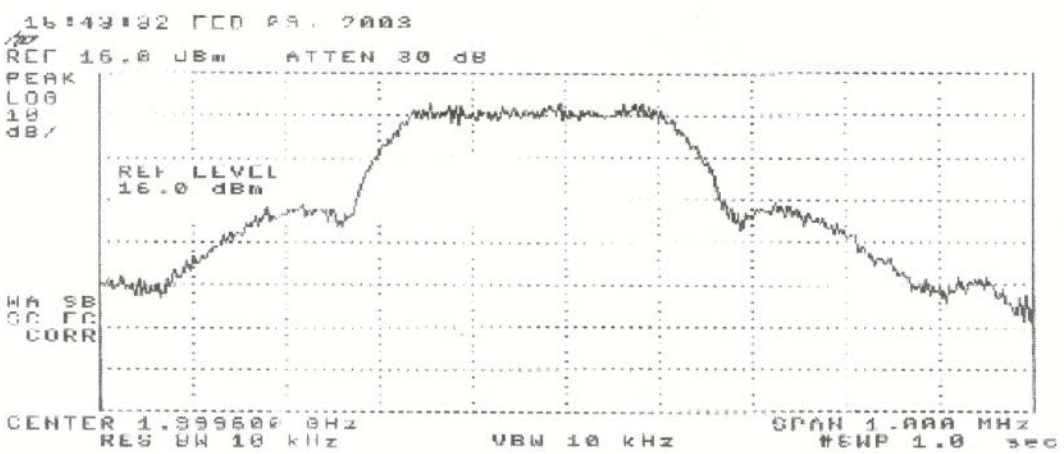
PLOT 4
(nominal supply voltage and 35 degrees C)



+35°c

WI1400 Transmit Spectrum

PLOT 5
(nominal supply voltage and 40 degrees C)



@ +40°C

WIT1400 Transmit Spectrum