

**Cirronet Corporation
FCC Part 15,
Class I Permissive Change Application
WIT2410**

February 21, 2001

MEASUREMENT/TECHNICAL REPORT

COMPANY NAME: **Cirronet Corporation.**

MODEL: **WIT2410**

FCC ID: **HSW-2410M**

DATE: **February 21, 2001**

This report concerns (check one): Original grant X
Class II change _____

Equipment type: **Modular Frequency Hopping Spread Spectrum Transceiver**

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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SECTION 1

GENERAL INFORMATION

GENERAL INFORMATION

1.1 Product Description

The Equipment Under Test (EUT) is a Cirronet Corporation, Model WIT2410 modular 2.4 GHz spread spectrum modular transceiver.

The EUT was originally approved for use with one of seven different antennas. The EUT was previously approved under FCC ID: HSW-2410M by the FCC on 10/6/99. Cirronet Corporation desires to add an additional 5 antennas to their original grant of certification.

1.2 Related Submittal(s)/Grant(s)

The EUT was been previously approved under FCC ID: HSW-2410M by the FCC on 10/6/99.

Additionally, the transceiver presented in this report will be used with other like transceivers.

SECTION 2

TESTS AND MEASUREMENTS

TEST AND MEASUREMENTS

2.1 Configuration of Tested System

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). 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. 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.

The sample used for testing was received by U.S. Technologies on January 17, 2001 in good condition.

The EUT was originally approved for use with one of seven different antennas. The EUT was previously approved under FCC ID: HSW-2410M by the FCC on 10/6/99. Cirronet Corporation desires to add an additional 5 antennas to their original grant of certification. Since the EUT has been previously tested and approved, only the spurious emissions test has been repeated. Additionally, since Cirronet Corporation desires to add two parabolic dish antennas (+18 dBi and +24 dBi), only the highest gain model was selected for test (+24 dBi).

2.2 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.

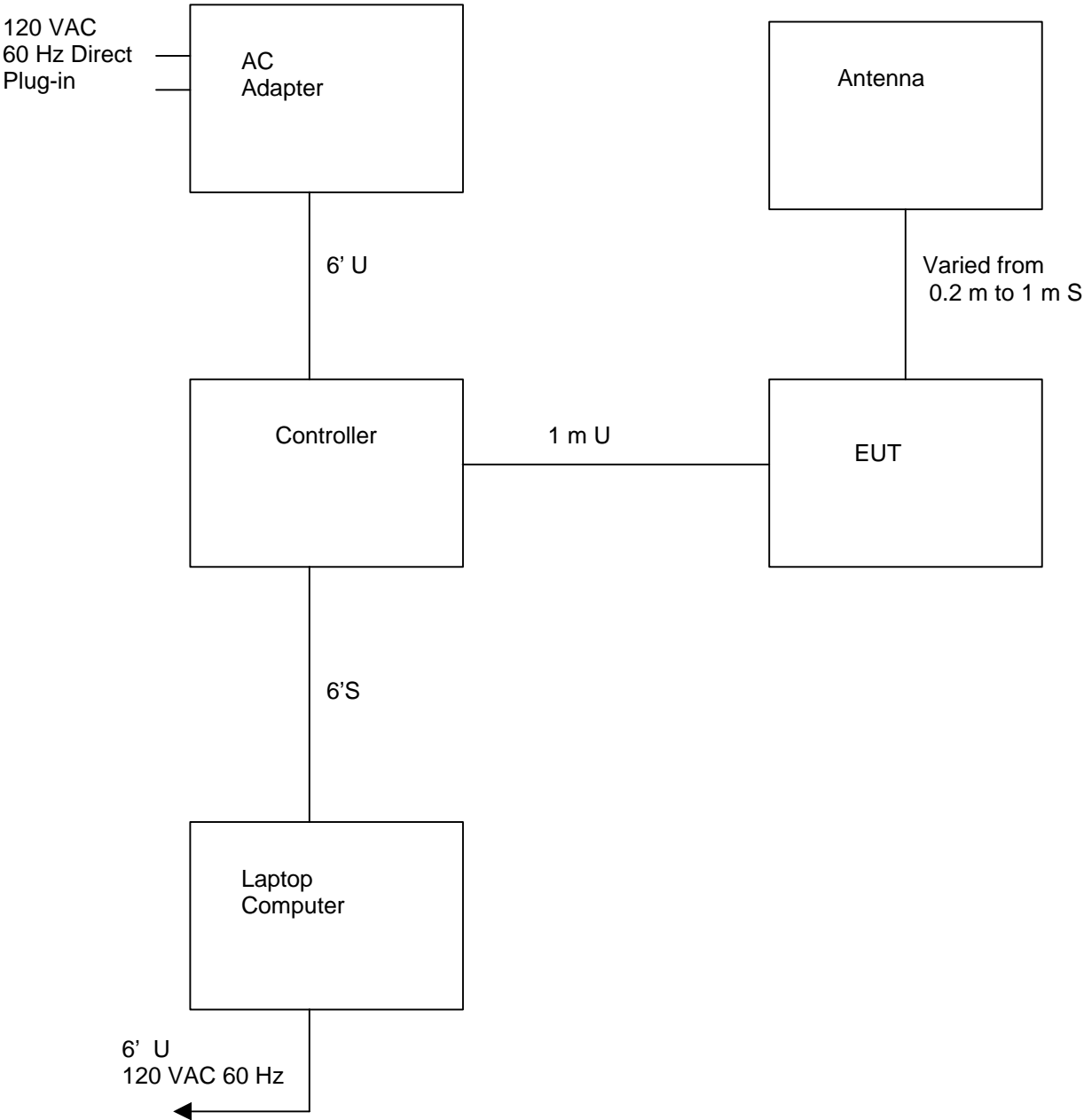
2.3 Test Equipment

Table 2 describes test equipment used to evaluate this product.

2.4 Modifications

No modifications were made by US Tech, to bring the EUT into compliance with FCC Part 15, Class B Limits for the transmitter portion of the EUT.

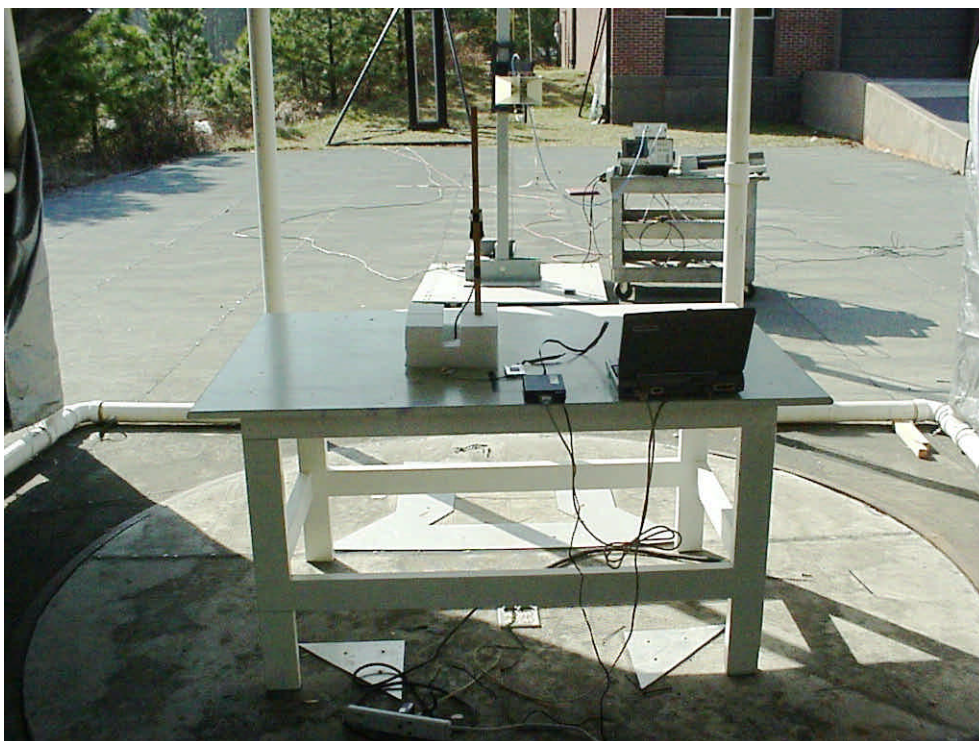
FIGURE 1
TEST CONFIGURATION



Test Date: February 4, 2001
UST Project: 01-0057
Customer: Cirronet Corporation
Model: WIT2410

FIGURE 2a

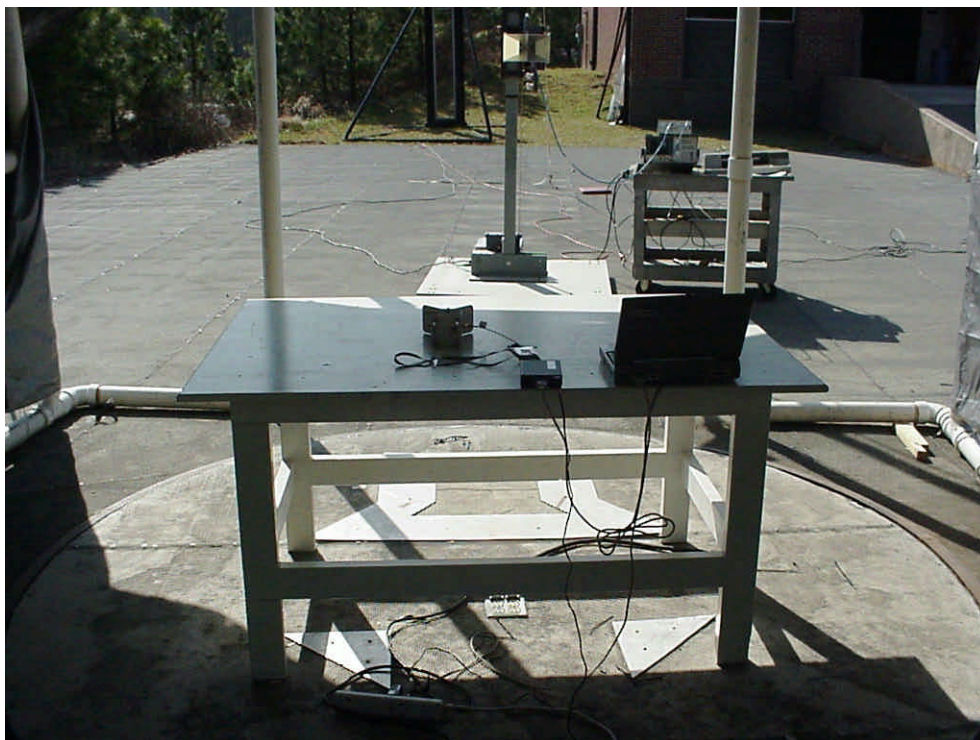
Photograph(s) for Spurious Emissions (2.5 dBi Vehicle Mount)



Test Date: February 4, 2001
UST Project: 01-0057
Customer: Cirronet Corporation
Model: WIT2410

FIGURE 2b

Photograph(s) for Spurious Emissions (9 dBi Corner Reflector)



Test Date: February 4, 2001
UST Project: 01-0057
Customer: Cirronet Corporation
Model: WIT2410

FIGURE 2c

Photograph(s) for Spurious Emissions (5 dBi Whip)



Test Date: February 4, 2001
UST Project: 01-0057
Customer: Cirronet Corporation
Model: WIT2410

FIGURE 2d

Photograph(s) for Spurious Emissions (24 dBi Parabolic Dish)



TABLE 1

Test Date: February 4, 2001
UST Project: 01-0057
Customer: Cirronet Corporation
Model: WIT 2410M

EUT and Peripherals

| PERIPHERAL MANU. | MODEL NUMBER | SERIAL NUMBER | FCC ID: | CABLES P/D |
|----------------------------------------------------|--------------------------|--------------------------|----------------|-----------------------------------------|
| (EUT) Cirronet Corporation | WIT 2410M | 008517 | HSW-2410M | 1 m U |
| Antenna Various, see antenna descriptions | | | None | Varied from 0.2 to 1 m S |
| AC Adapter Volgen | SPU10R-1 | None | None | 6' U 120 VAC 60 Hz Direct Plug-in |
| Controller Cirronet Corporation | None | None | None | 6' S |
| Laptop Computer Toshiba | Satelite Pro T2155CDS | 09543879 | CJ6UK323 | 6' U 120 VAC Hz Power Cord |

TABLE 2
TEST INSTRUMENTS

| TYPE | MANUFACTURER | MODEL | SN. |
|----------------------|-----------------|----------|---------------|
| SPECTRUM ANALYZER | HEWLETT-PACKARD | 8593E | 3205A00124 |
| SPECTRUM ANALYZER | HEWLETT-PACKARD | 8558B | 2332A09900 |
| 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 |
| HORN ANTENNA | EMCO | 3116 | 9505-2255 |
| BICONICAL ANTENNA | EMCO | 3110 | 9307-1431 |
| LOG PERIODIC ANTENNA | EMCO | 3146 | 9110-3600 |
| BILOG | CHASE | CBL6112A | 2238 |
| LISN | SOLAR ELE. | 8012 | 865577 |
| LISN | SOLAR ELE. | 8028 | 910494 |
| LISN | SOLAR ELE. | 8028 | 910495 |
| THERMOMETER | FLUKE | 52 | 5215250 |
| MULTIMETER | FLUKE | 85 | 53710469 |
| FUNCTION GENERATOR | TEKTRONIX | CFG250 | CFG250TW15059 |
| PLOTTER | HEWLETT-PACKARD | 7475A | 2325A65394 |