Exhibit 6: Test Report

TEST REPORT FROM:

COMMUNICATION CERTIFICATION LABORATORY
1940 W. Alexander Street
Salt Lake City, Utah
84119-2039

Type of Report: Certification

TEST OF: 3CRWB60

FCC ID: O9C-RWB60

To FCC PART 15.247, Subpart C

Test Report Serial No: 73-7299

Applicant:

3Com Corporation
605 North 5600 West
Salt Lake City, UT 84116

Date(s) of Test: June 9 - 30, 2000

Issue Date: October 27, 2000

Equipment Receipt Date: June 9, 2000

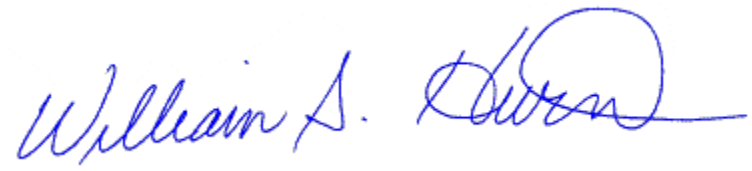
CERTIFICATION OF ENGINEERING REPORT

This report has been prepared by Communication Certification Laboratory to determine compliance of the device described below with the requirements of FCC PART 15.247, Subpart C. This report may be reproduced in full, partial reproduction may only be made with the written consent of the laboratory. The results in this report apply only to the sample tested.

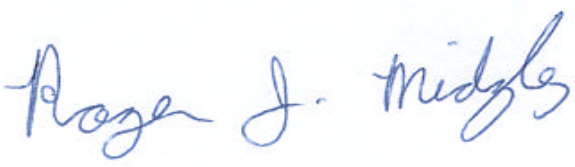
- Applicant: 3Com Corporation
- Manufacturer's: 3Com Corporation
- Brand Name: 3Com
- Model Number: 3CRWB60
- FCC ID: O9C-RWB60

On this 27th day of October 2000, I, individually, and for Communication Certification Laboratory, certify that the statements made in this engineering report are true, complete, and correct to the best of my knowledge, and are made in good faith.

COMMUNICATION CERTIFICATION LABORATORY



Checked by: William S. Hurst, P.E.
Vice President



Tested by: Roger J. Midgley
EMC Engineering Manager

SECTION 1. CLIENT INFORMATION AND MANUFACTURER:

1.1 Client Information:

Company Name: 3Com Corporation
605 North 5600 West
Salt Lake City, UT 84116

Contact Name: Greg Hansen
Title: Regulatory Engineer

1.2 Manufacturer:

Company Name: 3Com Corporation
605 North 5600 West
Salt Lake City, UT 84116

Contact Name: Greg Hansen
Title: Regulatory Engineer

SECTION 2. EQUIPMENT UNDER TEST (EUT)

2.1 Identification of EUT:

Trade Name: 3Com Corporation
Model Name or Number: 3CRWB60
Serial Number: N/A
Options Fitted: None
Country of Manufacture: U.S.A.

2.2 Description of EUT:

Based on the Ericsson Bluetooth Chipset, the 3CRWB60 Excalibur Bluetooth PC Card enables PCMCIA-enabled Personal Computers (esp. laptops) with Bluetooth capabilities. This provides the user with fast, secure, and reliable data and voice exchange capabilities with other Bluetooth enabled devices. Excalibur enables wireless communications with Palms, Palm-PC's, Mobile Phones, LAN Access Points, PSTN Access Points, Cordless Headsets, and other Bluetooth-enabled PC's.

This report covers the transmitter only the receiver and class B computer peripheral portions are covered under a separate declaration of conformity report.

2.3 Modification Incorporated/Special Accessories on EUT:

There were no modifications or special accessories required to comply with the specification.

2.4 EUT and Support Equipment:

The FCC ID numbers for all the EUT and support equipment used during the test (including inserted cards) are listed below:

Brand Name Model Number	FCC ID Number	Description	Name of Interface Ports / Interface Cables
BN: 3Com MN: 3CRWB60 (1)	O9C-RWB60	Bluetooth PC card	See Section 2.5.

Brand Name Model Number	FCC ID Number	Description	Name of Interface Ports / Interface Cables
BN: Sony MN: PCG-Z505RX SN: 2830253131311775	DoC	Laptop Computer	PCMCIA/PCMCIA Card Slot (2). I/O/Port Replicator Cable.
BN: Toshiba MN: 1605CDS SN: 1019351CU	DoC	Laptop Computer	PCMCIA/PCMCIA Card Slot (2). I/O/Port Replicator Cable.
BN: Hewlett Packard MN: Deskjet 340	Doc	Printer	Parallel/Shielded parallel printer cable.
BN: Microsoft MN: Intellimouse 1.1A SN: 00138753	C3KKS9	Mouse	Mouse/Attached cable (3).

Note: (1) EUT.
(2) Interface port connected to EUT (See Section 2.5)
(3) Mouse cable permanently attached.

The support equipment listed above was not modified in order to achieve compliance with this standard.

2.5 Interface Ports on EUT:

Name of Ports	No. of Ports Fitted to EUT.	Cable Descriptions/Length
PCMCIA	1	Direct connect to laptop through PCMCIA card slot.
Antenna	1	N/A

2.6 List of Channels:

Channel Number	Channel Frequency (MHz)	Channel Number	Channel Frequency (MHz)
1	2402.0	41	2442.0
2	2403.0	42	2443.0
3	2404.0	43	2444.0
4	2405.0	44	2445.0
5	2406.0	45	2446.0
6	2407.0	46	2447.0
7	2408.0	47	2448.0
8	2409.0	48	2449.0
9	2410.0	49	2450.0
10	2411.0	50	2451.0
11	2412.0	51	2452.0
12	2413.0	52	2453.0
13	2414.0	53	2454.0
14	2415.0	54	2455.0
15	2416.0	55	2456.0
16	2417.0	56	2457.0
17	2418.0	57	2458.0
18	2419.0	58	2459.0
19	2420.0	59	2460.0
20	2421.0	60	2461.0
21	2422.0	61	2462.0
22	2423.0	62	2463.0
23	2424.0	63	2464.0
24	2425.0	64	2465.0
25	2426.0	65	2466.0
26	2427.0	66	2467.0
27	2428.0	67	2468.0
28	2429.0	68	2469.0
29	2430.0	69	2470.0
30	2431.0	70	2471.0
31	2432.0	71	2472.0
32	2433.0	72	2473.0
33	2434.0	73	2474.0
34	2435.0	74	2475.0
35	2436.0	75	2476.0
36	2437.0	76	2477.0
37	2438.0	77	2478.0
38	2439.0	78	2479.0
39	2440.0	79	2480.0
40	2441.0		

SECTION 3. TEST SPECIFICATION, METHODS & PROCEDURES

3.1 Test Specification:

Title: FCC PART 15.247, Subpart C (47 CFR 15).

Limits and methods of measurement of radio interference characteristics of radio frequency devices. Operation within the bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz.

Purpose of Test: The tests were performed to demonstrate Initial compliance.

3.2 Methods & Procedures:

3.2.1 § 15.247

(a) Operation under the provisions of this section is limited to frequency hopping and direct sequence spread spectrum intentional radiators that comply with the following provisions:

(1) Frequency hoping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. The system shall hop to channel frequencies that are selected at the system-hopping rate from a pseudorandomly ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitting signals.

(i) Frequency hopping systems operating in the 902 - 928 MHz band shall use at least 50 hopping frequencies. The maximum allowed 20 dB bandwidth of the hopping channel is 500 kHz. The average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 20 second period.

(ii) Frequency hopping systems operating in the 2400 – 2483.5 MHz and the 5725 – 5850 MHz bands shall use at least 75 hopping frequencies. The maximum allowed 20 dB bandwidth of the hopping channel is 1 MHz. The average time of occupancy on any frequency shall not be greater than 0.4 seconds within a 30 second period.

(2) For direct sequence systems, the minimum 6 dB bandwidth shall be at least 500 kHz.

(b) The maximum peak output power of the transmitter shall not exceed 1 watt. If transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(c) In any 100 kHz bandwidth outside these frequency bands, the radio frequency power that is produced by the modulation products of the spreading sequence, the information sequence and the carrier frequency shall be either at least 20 dB below that in any 100 kHz bandwidth within the band that contains the highest level of the desired power or shall not exceed the general levels specified in § 15.209 (a), whichever results in the lesser attenuation. All other emissions outside these bands shall not exceed the general radiated emission limits specified in § 15.209 (a).

(d) For direct sequence system, the transmitted power density averaged over any 1 second interval shall not be greater than 8 dBm in any 3 kHz bandwidth within these bands.

(e) The processing gain of a direct sequence system shall be at least 10 dB. The processing gain shall be determined from the ratio in dB of the signal to noise ratio with the system spreading code turned off to the signal to noise ratio with the system spreading code turned on, as measured at the demodulated output of the receiver.

(f) Hybrid systems that employ a combination of both direct sequence and frequency hopping modulation techniques shall achieve a processing gain of at least 17 dB from the combined techniques. The frequency hopping operation of the hybrid system, with the direct sequence operation turned off, shall have an average time of occupancy on any frequency not to exceed 0.4 seconds within a time period equal to the number of hopping frequencies employed multiplied by 0.4. The direct sequence operation of the hybrid system, with the frequency hopping operation turned off, shall comply with the power density requirements of paragraph (d) of this section.

NOTE: Spread spectrum systems are sharing these bands on a non-interference basis with systems supporting critical Government requirements that have been allocated the usage of these bands, secondary only to ISM equipment operated

under the provisions of part 18 of this chapter. Many of these Government systems are airborne radiolocation systems that emit a high EIRP, which can cause interference to other users. Also, investigations of the effect of spread spectrum interference to U.S. Government operations in the 902-928 MHz band may require a future decrease in the power limits allowed for spread spectrum operation.

3.2.2 § 15.207 Conducted Limits

(a) For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 450 kHz to 30 MHz shall not exceed 250 microvolts. Compliance with the provision shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminals.

(b) The following option may be employed if the conducted emissions exceed the limits in paragraph (a) of this section when measured using instrumentation employing a quasi-peak detector function: If the level of the emission measured using the quasi-peak instrumentation is 6 dB, or more, higher than the level of the same emission measured with instrumentation having an average detector and a 9 kHz minimum bandwidth, that emission is considered broadband and the level obtained with the quasi-peak detector may be reduced by 13 dB for comparison to the limits. When employing this option, the following conditions shall be observed:

(1) The measuring instrumentation with the average detector shall employ a linear IF amplifier.

(2) Care must be taken not to exceed the dynamic range of the measuring instrument when measuring an emission with a low duty cycle.

(3) The test report required for verification of for an application for a grant of equipment authorization shall contain all details supporting the use of this option.

(c) The limit shown in paragraph (a) of this section shall not apply to carrier current systems operation as intentional radiators on frequencies below 30 MHz. In lieu thereof, these carrier current systems shall be subject to the following standards:

(1) For carrier current systems containing their fundamental emission within the frequency band 535-1705 kHz and intended to be received using a standard AM broadcast receiver: no limit on conducted emissions.

(2) For all other carrier current systems: 1000 μV within the frequency band 535-1705 kHz.

(3) Carrier current systems operating below 30 MHz are also subject to the radiated emission limits in §§ 15.205, 15.209, 15.221, 15.223, 15.225 or 15.227, as appropriate.

(d) Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Devices that include, or make provision for, the use of battery chargers which permit operation while charging, AC adapters or battery eliminators or that connect to the AC power lines indirectly, obtaining their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.

3.2.3 Test Procedure

The testing was performed according to the procedures in ANSI C63.4 (1992). Testing was performed at CCL's anechoic chamber located in Salt Lake City, Utah. This site has been fully described in a report submitted to the FCC, and was accepted in a letter dated March 1, 1999 (31040/SIT).

CCL participates in the National Voluntary Laboratory Accreditation Program (NVLAP) and has been accepted under NVLAP Lab Code:100272-0, which is effective until September 30,2001.

For radiated emissions testing that is performed at distances closer than the specified distance, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

SECTION 4. OPERATION OF EUT DURING TESTING.

4.1 Operating Environment:

Power Supply Input (to computer): 120 VAC
AC Mains Frequency (to computer): 60 Hz

Power Supply Output (from computer): 5 VDC

4.2 Operating Modes:

Each mode of operation was exercised to produce worst-case emissions. The worst-case emissions were with the 3CRWB60 running in the following mode. The 3CRWB60 was placed in the transmit mode with the same type of modulation that would normally be used during normal operation.

4.3 Configuration & Peripherals:

The 3CRWB60 was placed on the table in the transmit mode with the same type of modulation that would normally be used during normal operation.

SECTION 5. SUMMARY OF TEST RESULTS:

5.1 FCC PART 15.247, Subpart C

5.1.1 Summary of Tests:

Section	Test Performed	Frequency Range (MHz)	Result
15.247 (a)(1)	Hopping Channel Carrier Frequencies	2400 to 2483.5	Complied
15.247 (a)(1)(ii)	Average Time of Occupancy	2400 to 2483.5	Complied
15.247 (a)(1)(ii)	Emission Bandwidth	2400 to 2483.5	Complied
15.247 (b)(1)	Peak Output Power	2400 to 2483.5	Complied
15.247 (C)	Antenna Conducted Spurious Emissions	10 to 25,000	Complied
15.247 (C)	Radiated Spurious Emissions	10 to 25,000	Complied
15.247 (f)	Hybrid Systems	2400 to 2483.5	Complied
15.207	Line Conducted Emissions (Hot Lead to Ground)	0.45 to 30	Complied
15.207	Line Conducted Emissions (Neutral Lead to Ground)	0.45 to 30	Complied

5.2 Result

In the configuration tested, the EUT complied with the requirements of the specification.

SECTION 6. MEASUREMENTS, EXAMINATIONS AND DERIVED RESULTS:

6.1 General Comments:

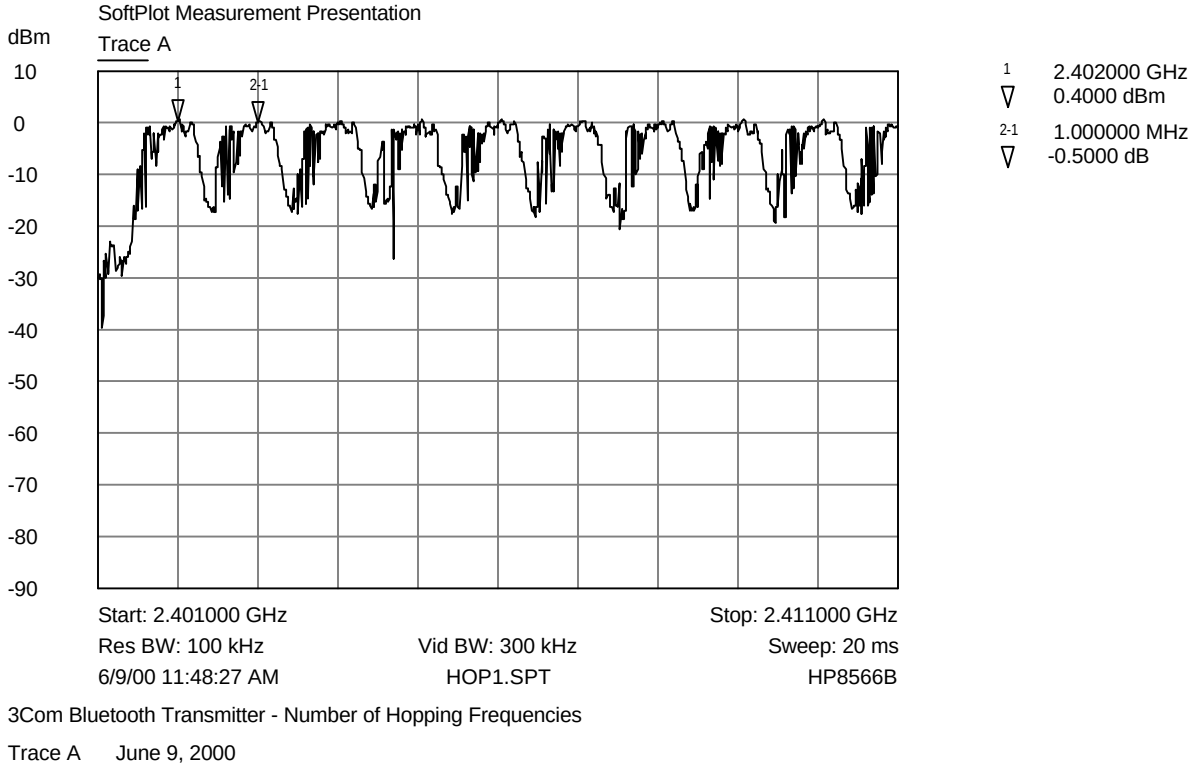
This section contains the test results only. Details of the test methods used, etc., can be found in Appendix 1 of this report.

6.2 Test Results

6.2.1 § 15.247 (a)(1) pseudorandomly ordered list of hopping frequencies and receiver input bandwidth
§ 15.247 (a)(1) Hopping Channel Carrier Frequencies
§ 15.247 (a)(1)(ii) Number of Hopping Channels

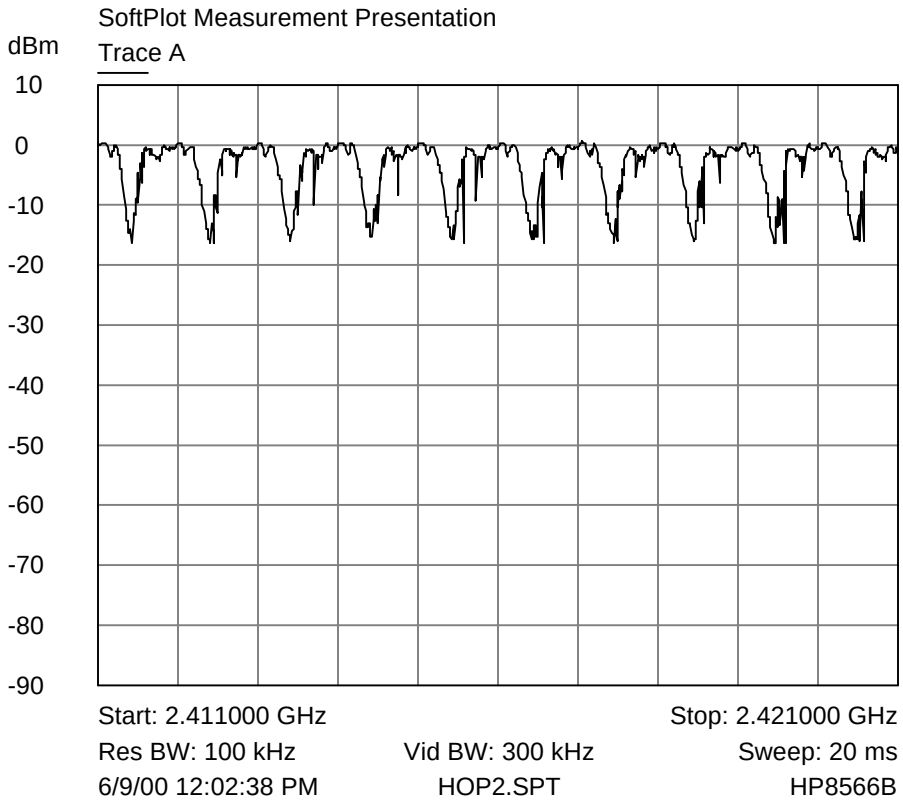
See Exhibit 12 for compliance to pseudorandomly ordered list of hopping frequencies and receiver input bandwidth.

The 3CRWB60 operates on the 79 channels that are shown in Section 2.6; 1 MHz separates these channels. Shown below are the plots that show the number of hopping channels and the carrier frequency separation:



Number of Hopping Channels (Plot 1)

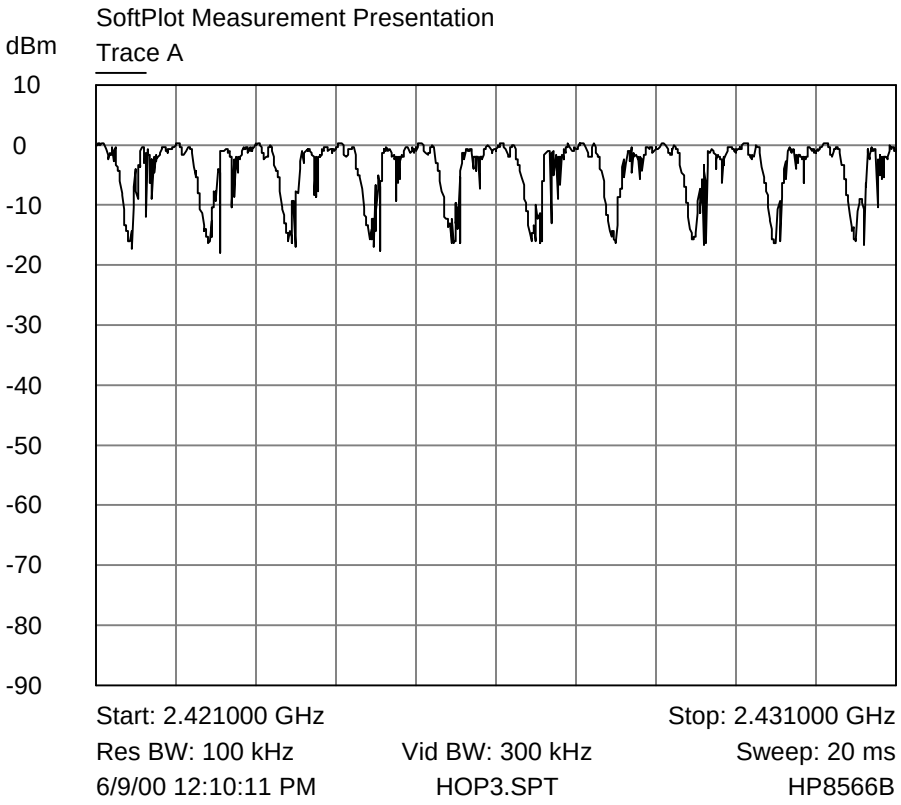
Exhibit 6



3Com Bluetooth Transmitter - Number of Hopping Frequencies

Trace A June 9, 2000

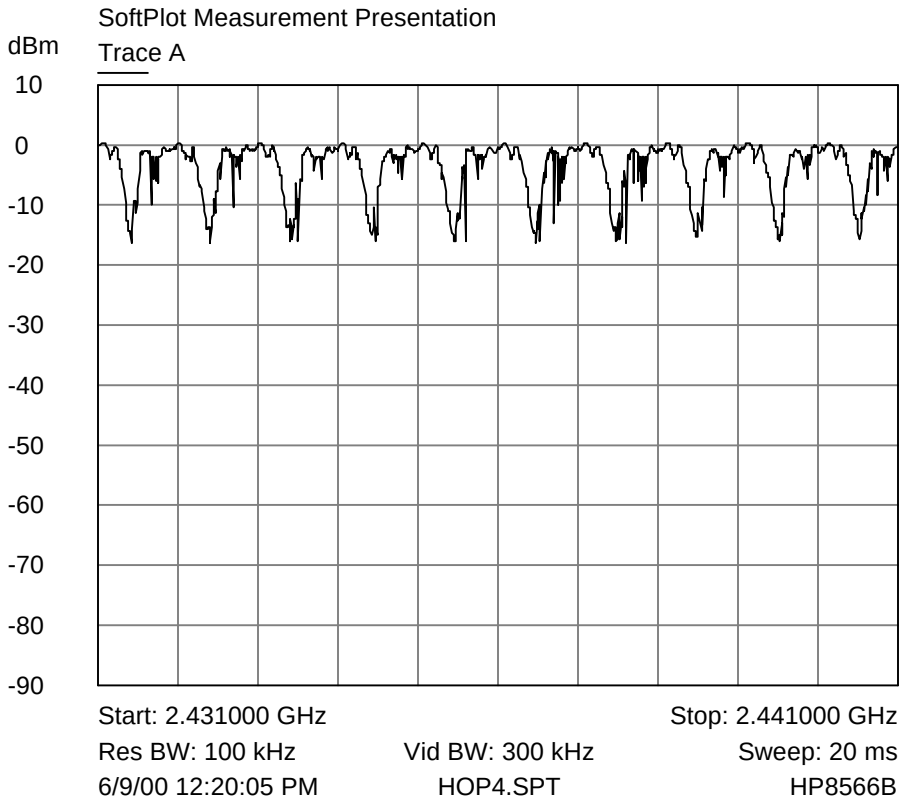
Number of Hopping Channels (Plot 2)



3Com Bluetooth Transmitter - Number of Hopping Frequencies

Trace A June 9, 2000

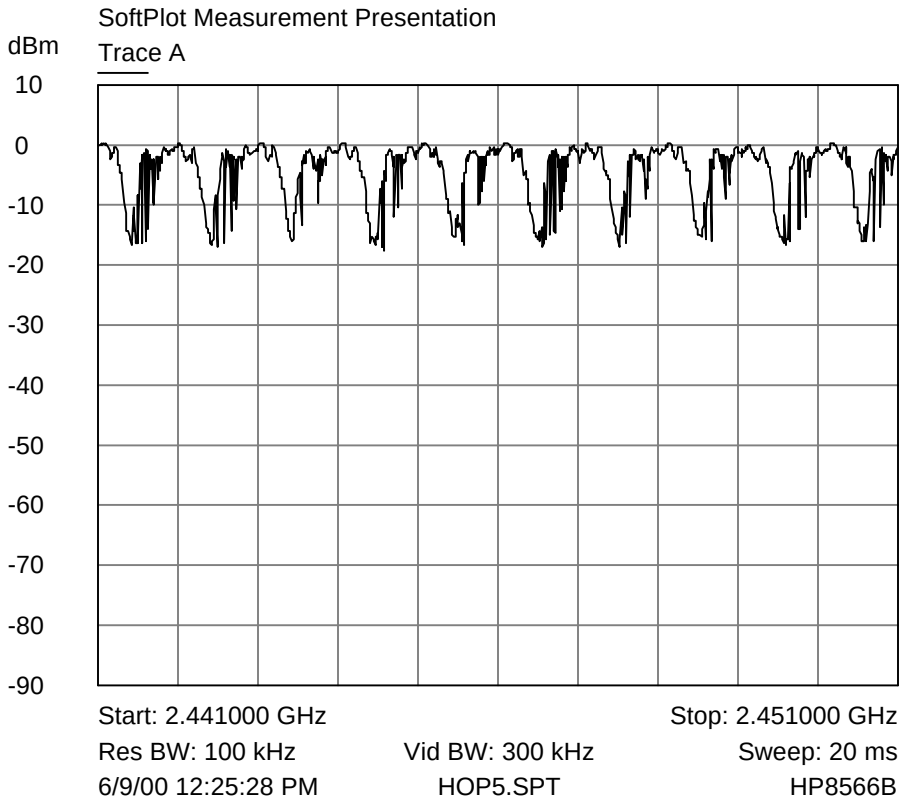
Number of Hopping Channels (Plot 3)



3Com Bluetooth Transmitter - Number of Hopping Frequencies

Trace A June 9, 2000

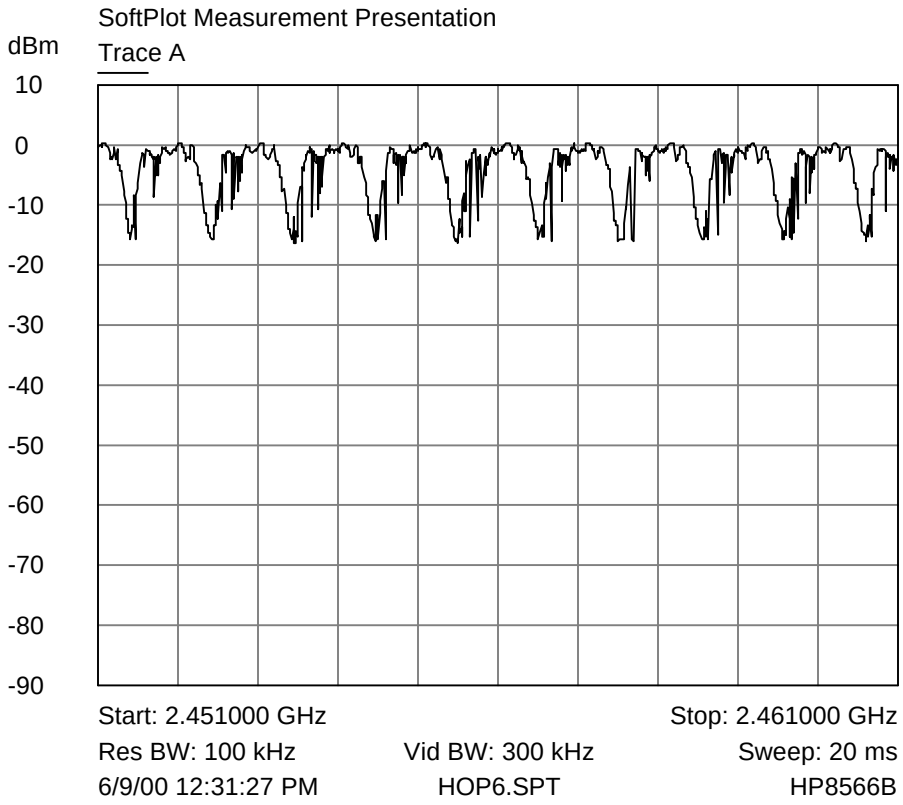
Number of Hopping Channels (Plot 4)



3Com Bluetooth Transmitter - Number of Hopping Frequencies

Trace A June 9, 2000

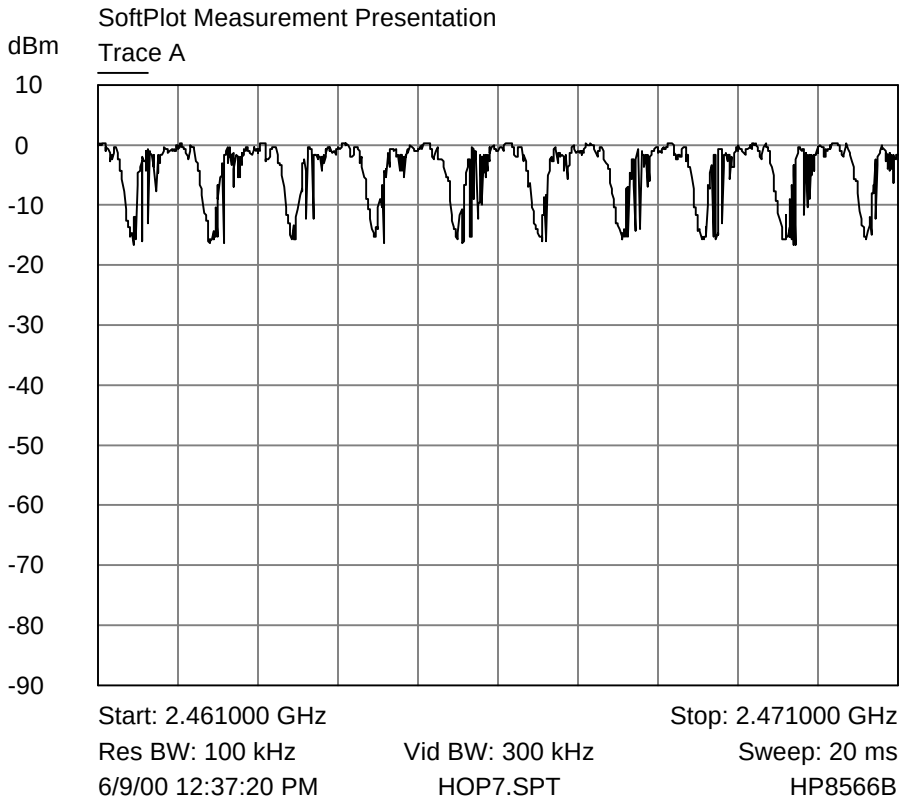
Number of Hopping Channels (Plot 5)



3Com Bluetooth Transmitter - Number of Hopping Frequencies

Trace A June 9, 2000

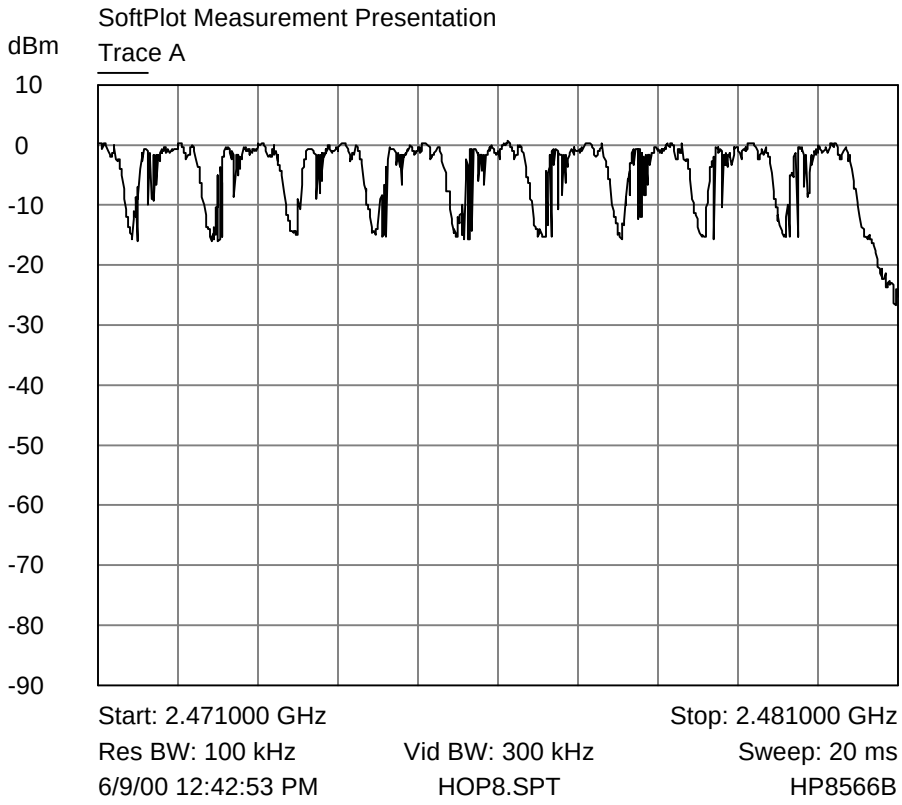
Number of Hopping Channels (Plot 6)



3Com Bluetooth Transmitter - Number of Hopping Frequencies

Trace A June 9, 2000

Number of Hopping Channels (Plot 7)



Number of Hopping Channels (Plot 8)

6.2.2 § 15.247 (a)(1)(ii) Average Time of Occupancy

The 3CRWB60 is designed to the Bluetooth standard. The Bluetooth standard specifies that the device must use 1600 hops/second. Since the 3CRWB60 uses 79 hopping channels and each channel is used equally (see Exhibit 12), each channel will transmit 20.25 times per second (1600 hops/second divided by 79 channels); therefore, in any 30 second period the channel will transmit 607.5 times. Since this device is a modem it will only transmit when there is data to be sent and the amount of data to be sent depends on the file size. In worst-case mode the maximum on time is 260 μs before it hops to the next channel in its hop list. Therefore, the worst-case average time of occupancy in a 30 sec span is 158 msec (see calculation below).

Hop sequence duration: 49.375 msec (79 channels divided by 1600 hops/second)
(Time to complete full hop sequence and return to a specific channel)

Number of hops per second: 20.25 (1600 hops/second divided by 79 channels)

Single Channel hits in 30 sec: 607.5 hits (20.25 times 30)

Average time of single channel occupancy: 260 μs (see plot below)

Average channel time of occupancy: (260 μsec/hit) *(607.5 hits per 30 sec) = 158 msec

The maximum time of occupancy for a particular channel is 158 msec in any 30 second period, which is less than the 400 msec allowed by the rules; therefore, it meets the requirements of this section.

CETECOM ICT Services GmbH

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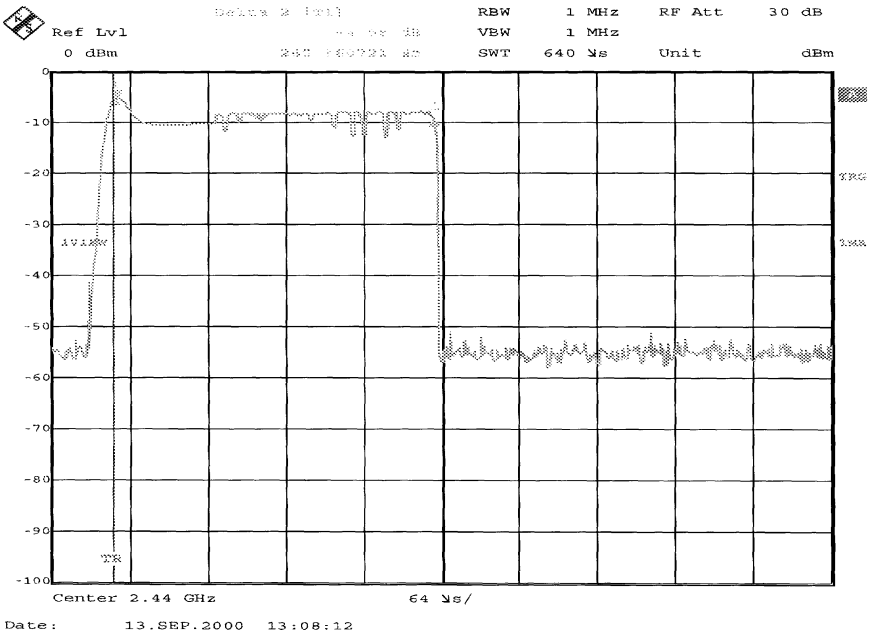
Equipment under test : 3CRWB60
Ambient temperature : 23°C
Relative humidity : 51%

Time of occupancy (dwell time) **§15.247(a)**

The system makes 1600 hops per second with 79 channels. So you have each channel 20.25 times per second and so for 30 seconds you have 607.5 times of appearence .
Each tx-time per appearence is 260 µs.
So we have 607.5 * 260 µs = 158 ms per 30 seconds.



REFERENCE NUMBER(S) OF TEST EQUIPMENT USED
(for reference numbers see test equipment listing)

Average Time of Occupancy (Plot 1)

Exhibit 6

6.2.3 § 15.247 (a)(1)(ii) Emission Bandwidth

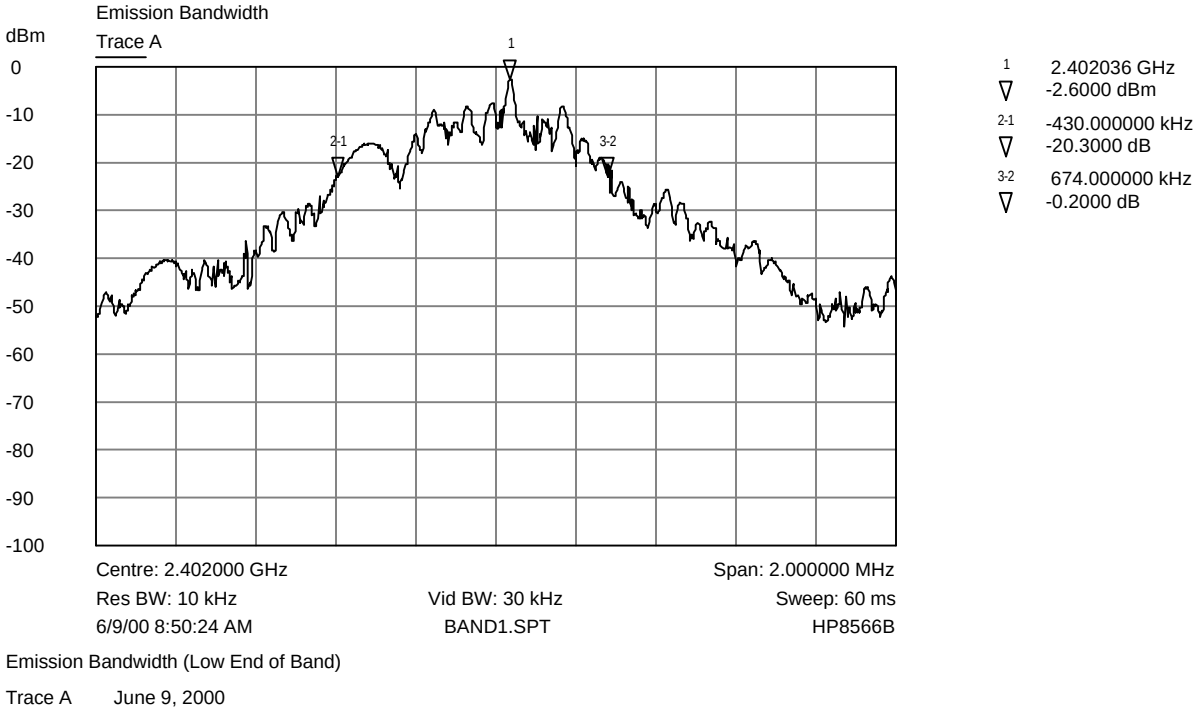
Measurement Data:

A diagram of the test configuration and the test equipment used is enclosed in Appendix 1.

Frequency (MHz)	Emission Bandwidth (kHz)
2402.0	674.0
2441.0	744.0
2480.0	862.0

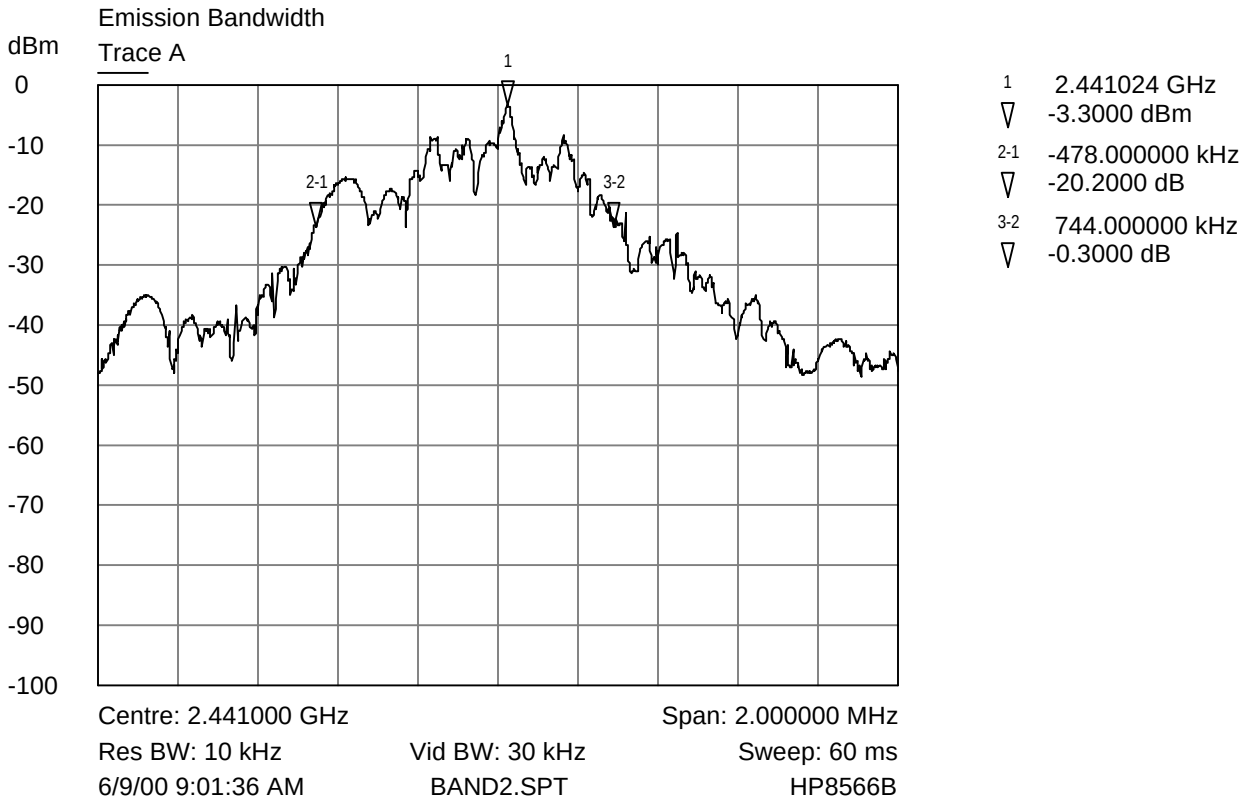
RESULT

In the configuration tested, the 20 dB bandwidth was less than 1 MHz; therefore, the EUT complied with the requirements of the specification (see spectrum analyzer plots below).



Emission Bandwidth Plot - (Low Channel)

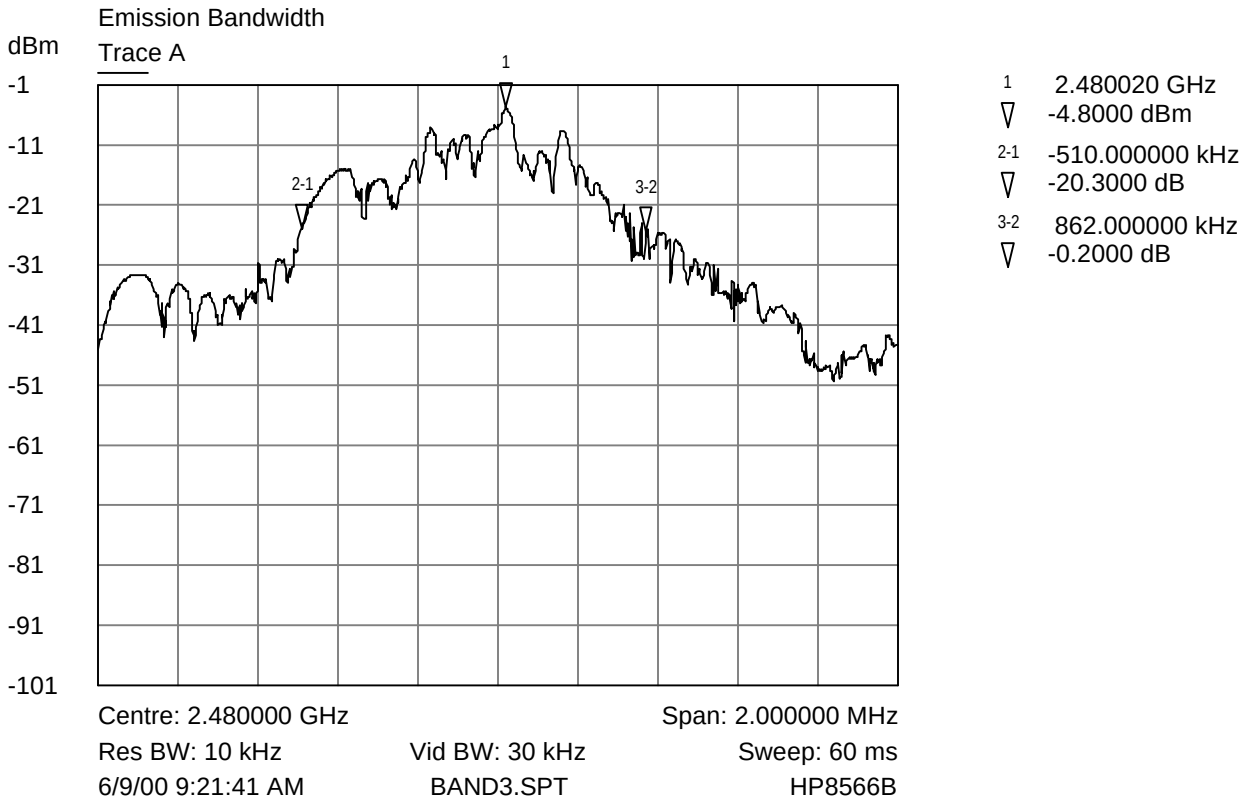
Exhibit 6



Emission Bandwidth (Middle of Band)

Trace A June 9, 2000

Emission Bandwidth Plot - (Middle Channel)



Emission Bandwidth (High End of Band)

Trace A June 9, 2000

Emission Bandwidth Plot - (High Channel)

6.2.4 § 15.247 (b)(1) Peak Output Power:

Measurement Data:

The maximum peak RF Conducted output power measured for this device was 1.17 mW or 0.7 dBm. The maximum antenna gain is -1.5 dBi; therefore, the maximum peak radiated (EIRP) for this device is 1.17 mW or 0.7 dBm. Shown below is the measured peak output power. The maximum directional gain of the antenna is less than 6 dBi; therefore, the maximum output power is not required to be reduced from the value measured.

The 3CRWB60 will be configured with the following antenna:

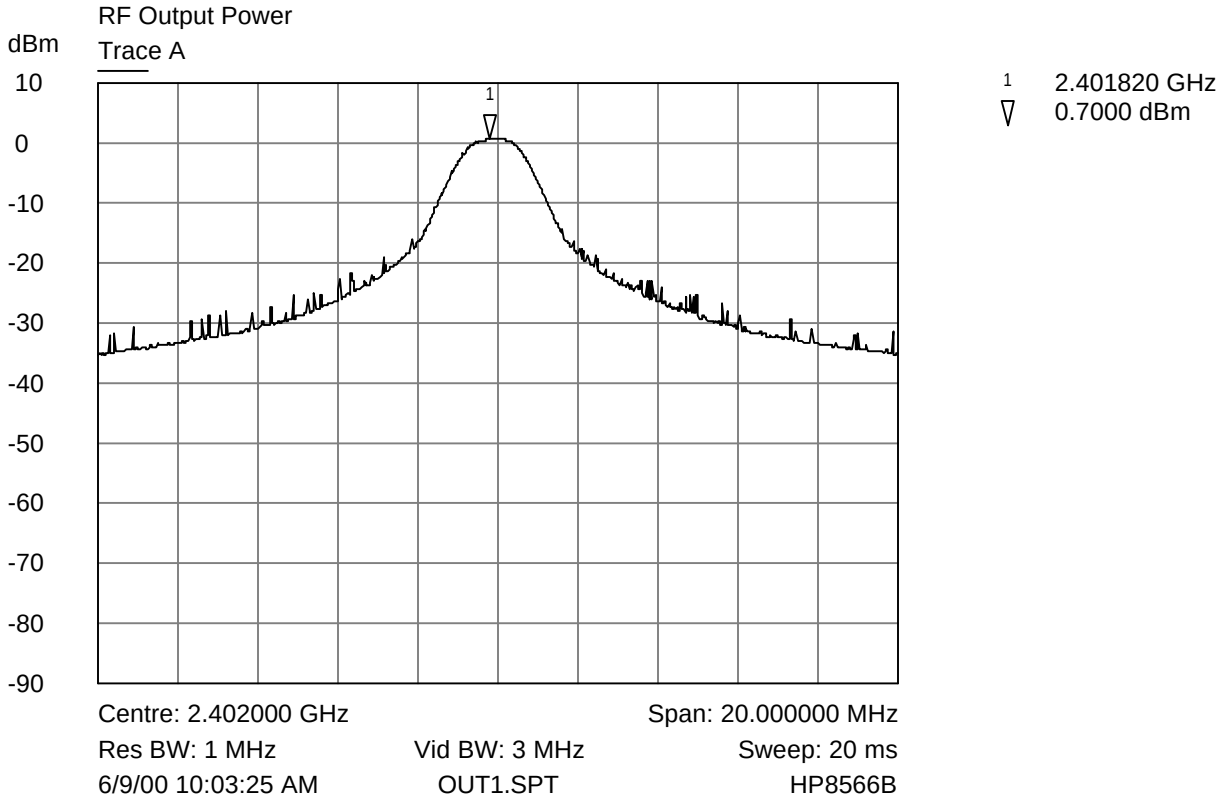
Manufacturer: 3Com Corporation
Model: 3Com patented flip out Xtenna antenna design
Connector Type: Radiall Type UMP SMT Receptacle
Maximum Directional Gain: -1.5 dBi

A diagram of the test configuration and the test equipment used is enclosed in Appendix 1.

Frequency (MHz)	Measured Output Power (dBm)	Measured Output Power (mW)
2402.0	0.7	1.17
2441.0	0.5	1.12
2480.0	0.7	1.17

RESULT

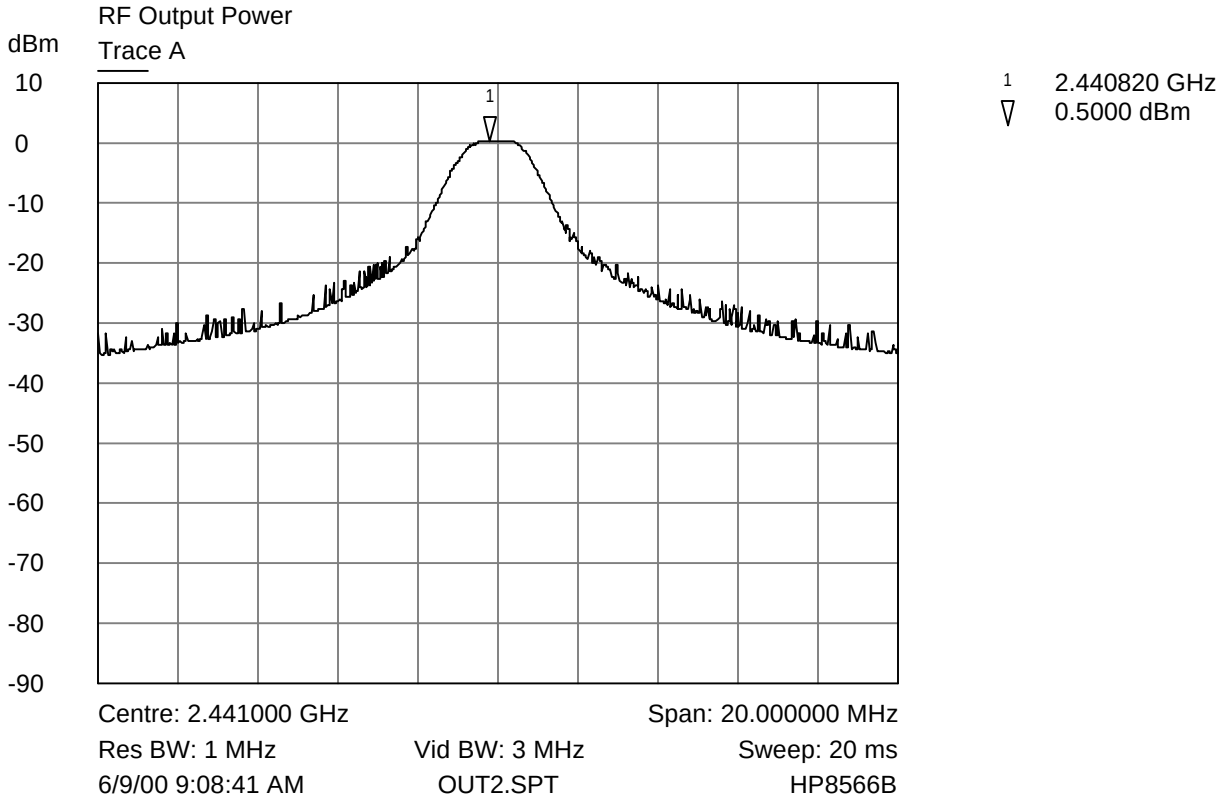
In the configuration tested, the RF peak output power was less than 1 Watt; therefore, the EUT complied with the requirements of the specification (see spectrum analyzer plots below).



RF Output Power (Low End of Band)

Trace A June 9, 2000

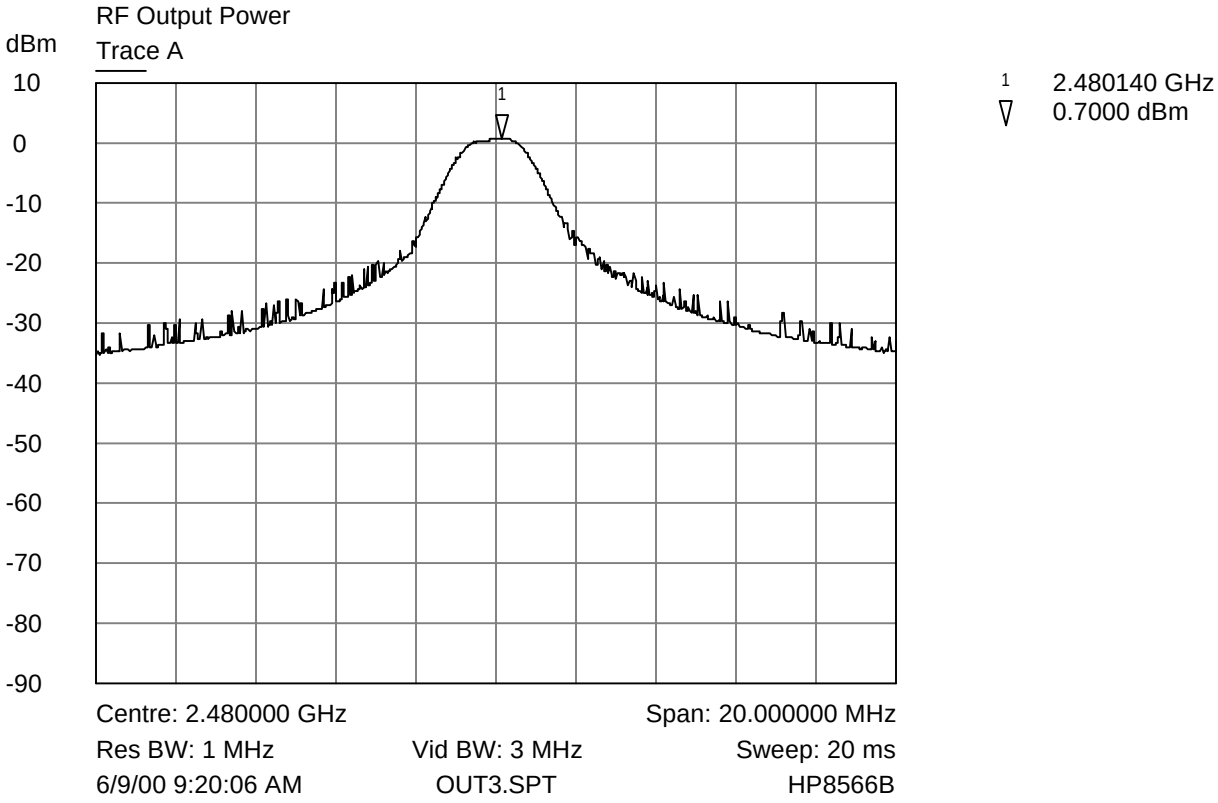
Peak Output Power Plot - (Low Channel)



RF Output Power (Middle of Band)

Trace A June 9, 2000

Peak Output Power Plot - (Middle Channel)



RF Output Power (High End of Band)

Trace A June 9, 2000

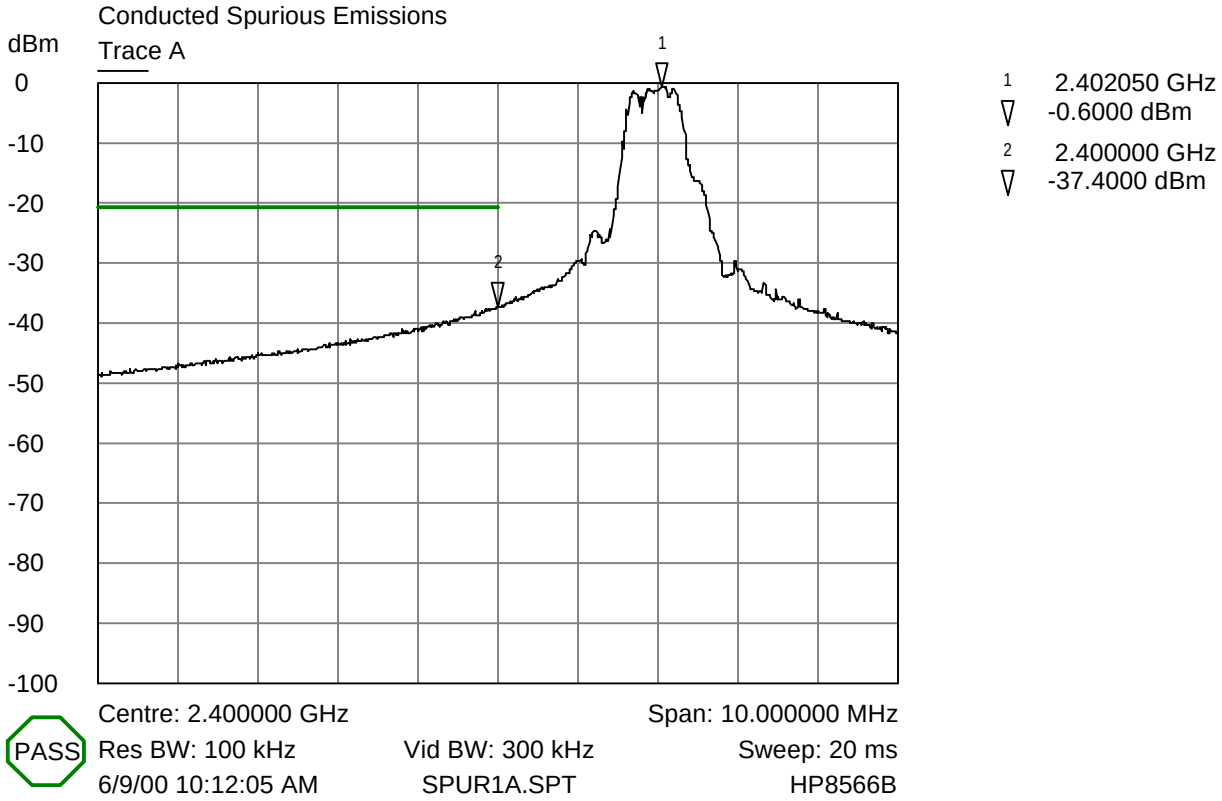
Peak Output Power Plot - (High Channel)

6.2.5 § 15.247 (c) Spurious Emissions:

Measurement Data Antenna Conducted Emissions:

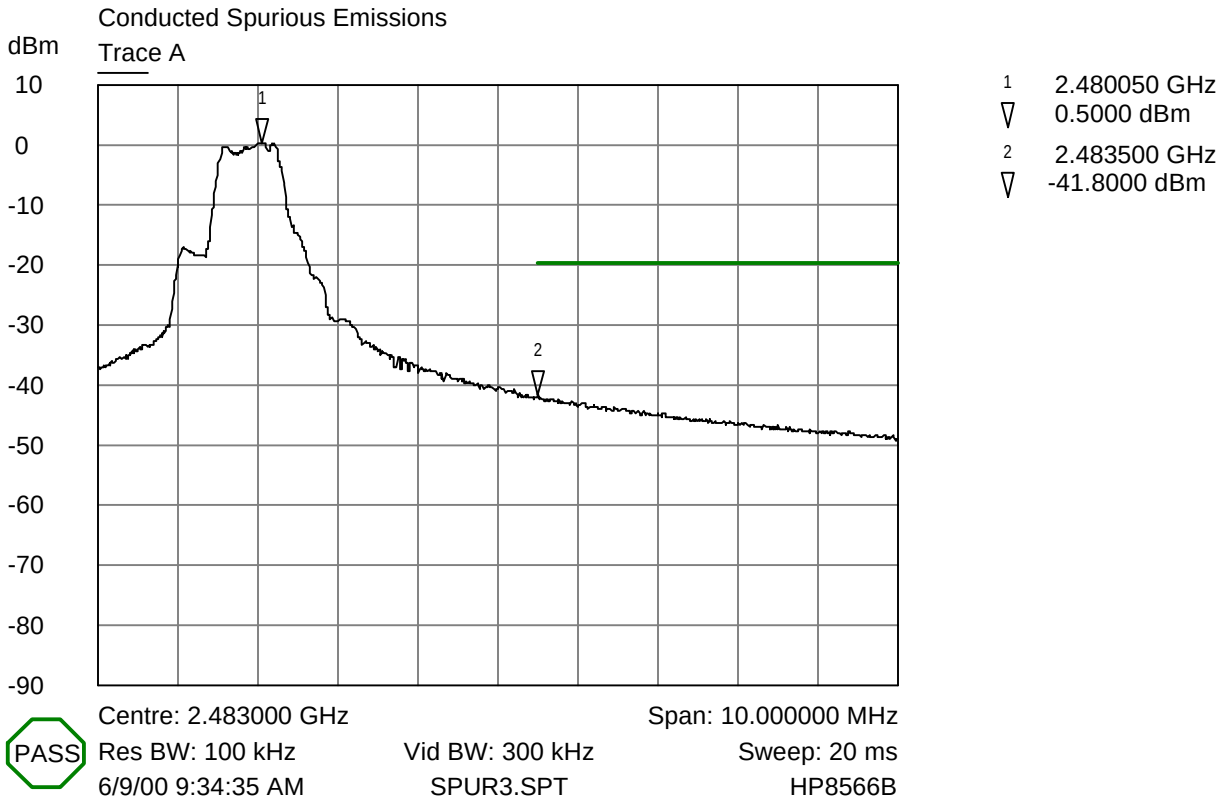
The frequency range from 10 MHz to the tenth harmonic of the highest fundamental frequency was investigated to measure any antenna-conducted emissions. Shown below are plots with the 3CRWB60 tuned to the upper and lower channels. These demonstrate compliance with the provisions of this section.

A diagram of the test configuration and the test equipment used is enclosed in Appendix 1.



Spurious emissions plot (Transmitting at 2402.0 MHz)

Exhibit 6



Spurious emissions plot (Transmitting at 2480.0 MHz)

The emissions must be attenuated 20 dB below the highest power level measured within the authorized band as measured with a 100 kHz RBW; the highest level measured with a 100 kHz RBW was –0.6 dBm therefore, the criteria is –0.6 – 20.0 = -20.6 dBm.

Transmitting at 2402.0 MHz			
Frequency Range MHz	Frequency MHz	Corrected Level dBm	Criteria dBm
10 - 200	81.0	-74.9	-20.6
200 - 1000	630.4	-64.3	-20.6
1000 – 2000	1850.9	-59.3	-20.6
2000 – 2399.9	2399.9	-37.4	-20.6
2483.6 – 4000	2502.1	-55.3	-20.6
4000 - 6000	4804.0	-38.7	-20.6
6000 - 8000	7206.0	-68.4	-20.6
8000 – 11,000	9608.0	-67.7 *	-20.6
11,000 – 13,000	12,010.0	-67.3 *	-20.6
13,000 – 15,000	14,412.0	-61.6 *	-20.6
15,000 – 18,000	16,814.0	-61.4 *	-20.6
18,000 – 20,000	19,216.0	-55.1 *	-20.6
20,000 – 23,000	21,618.0	-54.3 *	-20.6
23,000 – 25,000	24,020.0	-53.2 *	-20.6
* Noise Floor			

The emissions must be attenuated 20 dB below the highest power level measured within the authorized band as measured with a 100 kHz RBW; the highest level measured with a 100 kHz RBW was –0.5 dBm therefore, the criteria is –0.5 – 20.0 = -20.5 dBm.

Transmitting at 2441.0 MHz			
Frequency Range MHz	Frequency MHz	Corrected Level dBm	Criteria dBm
10 - 200	81.0	-71.9	-20.5
200 - 1000	630.4	-61.1	-20.5
1000 – 2000	1850.9	-60.1	-20.5
2000 – 2399.9	2399.9	-56.4	-20.5
2483.6 – 4000	2502.1	-55.3	-20.5
4000 - 6000	4883.0	-44.6	-20.5
6000 - 8000	7324.0	-67.6	-20.5
8000 – 11,000	9764.0	-67.7 *	-20.5
11,000 – 13,000	12,205.0	-67.3 *	-20.5
13,000 – 15,000	14,646.0	-61.6 *	-20.5
15,000 – 18,000	17,087.0	-61.4 *	-20.5
18,000 – 20,000	19,528.0	-55.1 *	-20.5
20,000 – 23,000	21,969.0	-54.3 *	-20.5
23,000 – 25,000	24,410.0	-53.2 *	-20.5
* Noise Floor			

The emissions must be attenuated 20 dB below the highest power level measured within the authorized band as measured with a 100 kHz RBW; the highest level measured with a 100 kHz RBW was 0.5 dBm therefore, the criteria is 0.5 – 20.0 = -19.5 dBm.

Transmitting at 2480.0 MHz			
Frequency Range MHz	Frequency MHz	Corrected Level dBm	Criteria dBm
10 - 200	81.0	-68.9	-19.5
200 - 1000	630.4	-62.3	-19.5
1000 – 2000	1850.9	-58.2	-19.5
2000 – 2399.9	2399.9	-56.4	-19.5
2483.6 – 4000	2483.6	-41.8	-19.5
4000 - 6000	4960.0	-51.2	-19.5
6000 - 8000	7440.0	-66.3	-19.5
8000 – 11,000	9920.0	-67.7 *	-19.5
11,000 – 13,000	12,400.0	-67.3 *	-19.5
13,000 – 15,000	14,880.0	-61.6 *	-19.5
15,000 – 18,000	17,360.0	-61.4 *	-19.5
18,000 – 20,000	19,840.0	-55.1 *	-19.5
20,000 – 23,000	22,320.0	-54.3 *	-19.5
23,000 – 25,000	24,800.0	-53.2 *	-19.5
* Noise Floor			

Measurement Data Radiated Emissions Restricted Bands § 15.205:

The frequency range from 10 MHz to 10 GHz was investigated to measure any radiated emissions in the restricted bands. Shown below are any emissions that fell into the restricted bands of **§** 15.205.

A diagram of the test configuration and the test equipment used is enclosed in Appendix 1.

AVERAGE FACTOR

The 3CRWB60 transmits continuously therefore; there is not an average factor for this device.

Vertical Polarity

Transmitting at 2402.0 MHz						
Frequency MHz	Receiver Reading dBμV	Correction Factor dB	Average Factor dB	Corrected Reading dBμV/m	Limit dBμV/m	Margin dB
2483.5 P *	9.7	36.7	0.0	46.4	74.0	-27.6
2483.5 A *	-0.7	36.7	0.0	36.0	54.0	-18.0
4804.0 P	14.5	43.9	0.0	58.4	74.0	-15.6
4804.0 A	-1.0	43.9	0.0	42.9	54.0	-11.1
12,010.0 P *	12.9	43.0	0.0	55.9	74.0	-18.1
12,010.0 A *	-1.5	43.0	0.0	41.5	54.0	-12.5
19,216.0 P *	17.4	48.6	0.0	66.0	74.0	-8.0
19,216.0 A *	2.0	48.6	0.0	50.6	54.0	-3.4

P = Peak Detection

A = Average Detection

* No emissions were detected with the antenna 1 meter from the EUT, the indicated readings are the noise floor measurements from the spectrum analyzer

Transmitting at 2441.0 MHz						
Frequency MHz	Receiver Reading dBμV	Correction Factor dB	Average Factor dB	Corrected Reading dBμV/m	Limit dBμV/m	Margin dB
2483.5 P *	9.7	36.7	0.0	46.4	74.0	-27.6
2483.5 A *	-0.7	36.7	0.0	36.0	54.0	-18.0
4882.0 P	10.5	44.3	0.0	54.8	74.0	-19.2
4882.0 A	-0.6	44.3	0.0	43.7	54.0	-10.3
7323.0 P *	11.2	39.1	0.0	50.3	74.0	-23.7
7323.0 A *	-1.6	39.1	0.0	37.5	54.0	-16.5
12,205.0 P *	12.9	43.0	0.0	55.9	74.0	-18.1
12,205.0 A *	-1.5	43.0	0.0	41.5	54.0	-12.5
19,528.0 P *	17.4	48.6	0.0	66.0	74.0	-8.0
19,528.0 A *	2.0	48.6	0.0	50.6	54.0	-3.4

P = Peak Detection

A = Average Detection

* No emissions were detected with the antenna 1 meter from the EUT, the indicated readings are the noise floor measurements from the spectrum analyzer

Transmitting at 2480.0 MHz						
Frequency MHz	Receiver Reading dBμV	Correction Factor dB	Average Factor dB	Corrected Reading dBμV/m	Limit dBμV/m	Margin dB
2483.5 P	21.6	37.0	0.0	58.6	74.0	-15.4
2483.5 A	1.4	37.0	0.0	38.4	54.0	-15.6
4960.0 P	12.4	44.5	0.0	56.9	74.0	-17.1
4960.0 A	-0.5	44.5	0.0	44.0	54.0	-10.0
7440.0 P *	11.2	39.1	0.0	50.3	74.0	-23.7
7440.0 A *	-1.6	39.1	0.0	37.5	54.0	-16.5
12,400.0 P *	12.9	43.0	0.0	55.9	74.0	-18.1
12,400.0 A *	-1.5	43.0	0.0	41.5	54.0	-12.5
19,840.0 P *	17.4	48.6	0.0	66.0	74.0	-8.0
19,840.0 A *	2.0	48.6	0.0	50.6	54.0	-3.4
22,320.0 P *	16.8	47.2	0.0	64.0	74.0	-10.0
22,320.0 A *	1.8	47.2	0.0	49.0	54.0	-5.0

P = Peak Detection

A = Average Detection

* No emissions were detected with the antenna 1 meter from the EUT, the indicated readings are the noise floor measurements from the spectrum analyzer

Horizontal Polarity

Transmitting at 2402.0 MHz						
Frequency MHz	Receiver Reading dBμV	Correction Factor dB	Average Factor dB	Corrected Reading dBμV/m	Limit dBμV/m	Margin dB
2483.5 P *	9.7	36.7	0.0	46.4	74.0	-27.6
2483.5 A *	-0.7	36.7	0.0	36.0	54.0	-18.0
4804.0 P	9.7	43.9	0.0	53.6	74.0	-20.4
4804.0 A	-0.9	43.9	0.0	43.0	54.0	-11.0
12,010.0 P *	12.9	43.0	0.0	55.9	74.0	-18.1
12,010.0 A *	-1.5	43.0	0.0	41.5	54.0	-12.5
19,216.0 P *	17.4	48.6	0.0	66.0	74.0	-8.0
19,216.0 A *	2.0	48.6	0.0	50.6	54.0	-3.4

P = Peak Detection

A = Average Detection

* No emissions were detected with the antenna 1 meter from the EUT, the indicated readings are the noise floor measurements from the spectrum analyzer

Transmitting at 2441.0 MHz						
Frequency MHz	Receiver Reading dBμV	Correction Factor dB	Average Factor dB	Corrected Reading dBμV/m	Limit dBμV/m	Margin dB
2483.5 P *	9.7	36.7	0.0	46.4	74.0	-27.6
2483.5 A *	-0.7	36.7	0.0	36.0	54.0	-18.0
4882.0 P	10.4	44.3	0.0	54.7	74.0	-19.3
4882.0 A	-0.6	44.3	0.0	43.7	54.0	-10.3
7323.0 P *	11.2	39.1	0.0	50.3	74.0	-23.7
7323.0 A *	-1.6	39.1	0.0	37.5	54.0	-16.5
12,205.0 P *	12.9	43.0	0.0	55.9	74.0	-18.1
12,205.0 A *	-1.5	43.0	0.0	41.5	54.0	-12.5
19,528.0 P *	17.4	48.6	0.0	66.0	74.0	-8.0
19,528.0 A *	2.0	48.6	0.0	50.6	54.0	-3.4

P = Peak Detection

A = Average Detection

* No emissions were detected with the antenna 1 meter from the EUT, the indicated readings are the noise floor measurements from the spectrum analyzer

Transmitting at 2480.0 MHz						
Frequency MHz	Receiver Reading dBμV	Correction Factor dB	Average Factor dB	Corrected Reading dBμV/m	Limit dBμV/m	Margin dB
2483.5 P	17.5	37.0	0.0	54.5	74.0	-19.5
2483.5 A	-0.7	37.0	0.0	36.3	54.0	-17.7
4960.0 P	11.9	44.5	0.0	56.4	74.0	-17.6
4960.0 A	-0.3	44.5	0.0	44.2	54.0	-9.8
7440.0 P *	11.2	39.1	0.0	50.3	74.0	-23.7
7440.0 A *	-1.6	39.1	0.0	37.5	54.0	-16.5
12,400.0 P *	12.9	43.0	0.0	55.9	74.0	-18.1
12,400.0 A *	-1.5	43.0	0.0	41.5	54.0	-12.5
19,840.0 P *	17.4	48.6	0.0	66.0	74.0	-8.0
19,840.0 A *	2.0	48.6	0.0	50.6	54.0	-3.4
22,320.0 P *	16.8	47.2	0.0	64.0	74.0	-10.0
22,320.0 A *	1.8	47.2	0.0	49.0	54.0	-5.0

P = Peak Detection

A = Average Detection

* No emissions were detected with the antenna 1 meter from the EUT, the indicated readings are the noise floor measurements from the spectrum analyzer

Sample Field Strength Calculation:

The field strength is calculated by adding the Correction Factor (Antenna Factor + Cable Factor), to the measured level from the receiver. The basic equation with a sample calculation is shown below:

FS = RA + CF - AF Where
FS = Field Strength
RA = Receiver Amplitude (Receiver Reading - Amplifier Gain)
CF = Correction Factor (Antenna Factor + Cable Factor)
AF = Average Factor

RESULT

In the configuration tested, the EUT complied with the requirements of the specification.

6.2.6 § 15.247 (f) Hybrid System:

The 3CRWB60 has three modes of operation, page and inquiry (acquisition) modes and connection (link) mode. The page and inquiry modes operate under the provisions of this section. In these modes the 3CRWB60 uses a hopping sequence consisting of 32 frequencies and the combined processing gain from the direct sequence and hopping operations is greater than 17 dB. The frequency hopping operation of the 3CRWB60 with the direct sequence operation turned off does not exceed an average time of occupancy on any frequency greater than 0.4 seconds in a 12.8 seconds (32 hopping frequencies x 0.4). The direct sequence operation of the 3CRWB60 with the frequency hopping operation turned off does not exceed the peak power spectral density of 8 dBm in any 3 kHz band.

Testing to demonstrate compliance to this section was included as part of the Ericsson modular transmitter approval (FCC ID: CGK8001001), the 3CRWB60 uses the same chipset; therefore, these test results are applicable to this device. The results of these tests were uploaded as a separate exhibit.

6.2.7 § 15.247 (g) and § 15.247 (h):

The 3CRWB60 is designed to comply with these sections; see technical description in Exhibit 12.

6.2.8 § 15.207 Line Conducted Emissions:

The frequency range from 450 kHz to 30 MHz was investigated to measure any AC line conducted emissions.

A diagram of the test configuration and the test equipment used is enclosed in Appendix 1.

Line Conducted Data - (Hot Lead)

Frequency (MHz)	Detector	Measured Level ($dB\mu V$)	Limit ($dB\mu V$)	Margin (dB)
0.47	Peak (Note 1)	30.5	48.0	-17.5
0.62	Peak (Note 1)	29.4	48.0	-18.6
2.44	Peak (Note 1)	26.6	48.0	-21.4
4.21	Peak (Note 1)	27.2	48.0	-20.8
4.59	Peak (Note 1)	27.4	48.0	-20.6

Note 1: The reference detector used for the measurements was peak or quasi-peak and the data was compared to the quasi-peak limit.

Note 2: The reference detector used for the measurements ware quasi-peak and average. The level of the emission measured using the quasi-peak detector was 6 dB, or more, higher than the level of the same emission measured with average detection; therefore, the quasi-peak level was reduced by 13 dB for comparison to the limits, as per FCC § 15.107 (d).

Line Conducted Data - (Neutral Lead)

Frequency (MHz)	Detector	Measured Level ($dB\mu V$)	Limit ($dB\mu V$)	Margin (dB)
0.47	Peak (Note 1)	32.1	48.0	-15.9
3.65	Peak (Note 1)	26.0	48.0	-22.0
4.97	Peak (Note 1)	27.8	48.0	-20.2

Note 1: The reference detector used for the measurements was peak or quasi-peak and the data was compared to the quasi-peak limit.

Note 2: The reference detector used for the measurements ware quasi-peak and average. The level of the emission measured using the quasi-peak detector was 6 dB, or more, higher than the level of the same emission measured with average detection; therefore, the quasi-peak level was reduced by 13 dB for comparison to the limits, as per FCC § 15.107 (d).

APPENDIX 1 TEST PROCEDURES AND TEST EQUIPMENT

FCC Sections 15.247 (a)(1)(ii) Emission Bandwidth

The EUT was directly connected to the spectrum analyzer via the antenna output port as shown in the block diagram below.

The measurements were performed on three channels, as per 47 CFR 15.31(m), one near the bottom of the spectrum, one near the middle of the spectrum and one near the top of the spectrum.

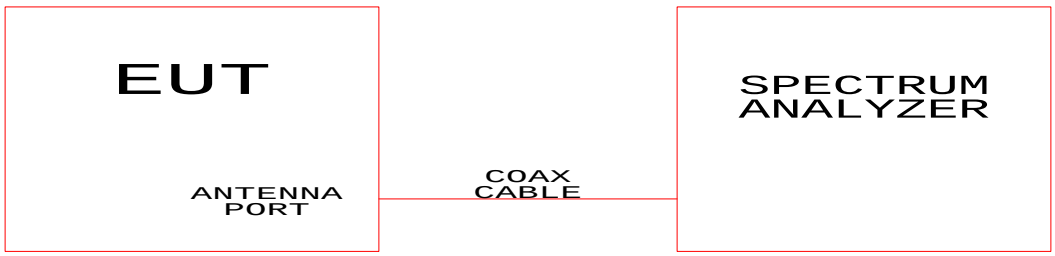
The spectrum analyzer's resolution bandwidth and video bandwidth were set as follows:

RBW = 10 kHz
VBW = 30 kHz

Type of Equipment	Manufacturer	Model Number	Serial Number
Spectrum Analyzer	Hewlett Packard	8566B	2230A01711
Quasi-Peak Detector	Hewlett Packard	8565A	3107A01582
Low Loss Cable (1 dB)	N/A	N/A	N/A

All the equipment listed above is calibrated every 12 months by an independent calibration laboratory or by CCL personal following outlined calibration procedures.

Test Configuration Block Diagram



FCC Sections 15.247 (b)(1) Peak Output Power

The EUT was directly connected to the spectrum analyzer via the antenna output port as shown in the block diagram below.

Exhibit 6

The measurements were performed on three channels, as per 47 CFR 15.31(m), one near the bottom of the spectrum, one near the middle of the spectrum and one near the top of the spectrum.

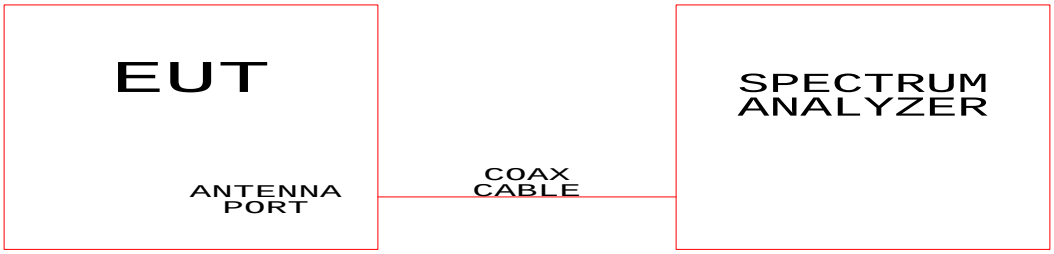
The spectrum analyzer's resolution bandwidth and video bandwidth were set as follows:

RBW = 3 MHz
VBW = 3 MHz

Type of Equipment	Manufacturer	Model Number	Serial Number
Spectrum Analyzer	Hewlett Packard	8566B	2230A01711
Quasi-Peak Detector	Hewlett Packard	8565A	3107A01582
Low Loss Cable (1 dB)	N/A	N/A	N/A

All the equipment listed above is calibrated every 12 months by an independent calibration laboratory or by CCL personal following outlined calibration procedures.

Test Configuration Block Diagram



FCC Sections 15.247 (c) Spurious Emissions

Conducted Spurious Emissions

The EUT was directly connected to the spectrum analyzer via the antenna output port as shown in the block diagram below.

The measurements were performed on three channels, as per 47 CFR 15.31(m), one near the bottom of the spectrum, one near the middle of the spectrum and one near the top of the spectrum.

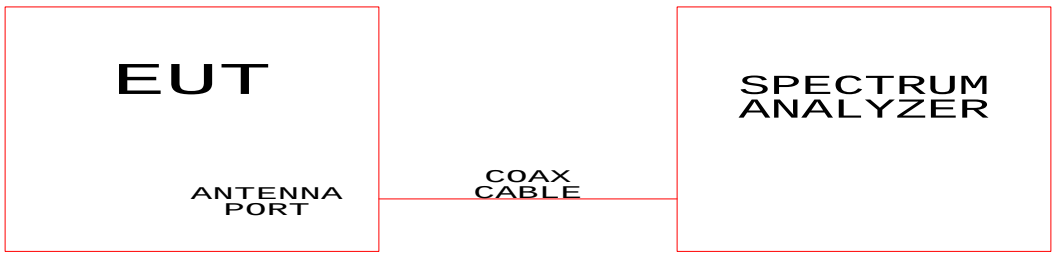
The spectrum analyzer's resolution bandwidth and video bandwidth were set as follows:

RBW = 100 kHz
VBW = 300 kHz

Type of Equipment	Manufacturer	Model Number	Serial Number
Spectrum Analyzer	Hewlett Packard	8566B	2230A01711
Quasi-Peak Detector	Hewlett Packard	8565A	3107A01582
Low Loss Cable (1 dB)	N/A	N/A	N/A

All the equipment listed above is calibrated every 12 months by an independent calibration laboratory or by CCL personal following outlined calibration procedures.

Test Configuration Block Diagram



Radiated Spurious Emissions in Restricted Bands:

The radiated emission from the intentional radiator was measured using a spectrum analyzer with a quasi-peak adapter for

peak and quasi-peak readings. A preamplifier with a fixed gain of 26 dB and a power amplifier with a fixed gain of 22 dB were used to increase the sensitivity of the measuring instrumentation. The quasi-peak adapter uses a bandwidth of 120 kHz, with the spectrum analyzer's resolution bandwidth set at 1 MHz, for readings in the 30 to 1000 MHz frequency ranges. For peak emissions above 1000 MHz the spectrum analyzer’s resolution bandwidth was set to 1 MHz and the video bandwidth was set to 3 MHz. For average emissions above 1000 MHz the spectrum analyzer’s resolution bandwidth was set to 1 MHz and the video bandwidth was set to 10 Hz.

A biconilog antenna was used to measure the frequency range of 30 to 1000 MHz and a Double Ridge Guide Horn antenna was used to measure the frequency range 1 GHz to 10 GHz, at a distance of 3 meters from the EUT. The readings obtained by these antennas are correlated to the levels obtained with a tuned dipole antenna by adding antenna factors.

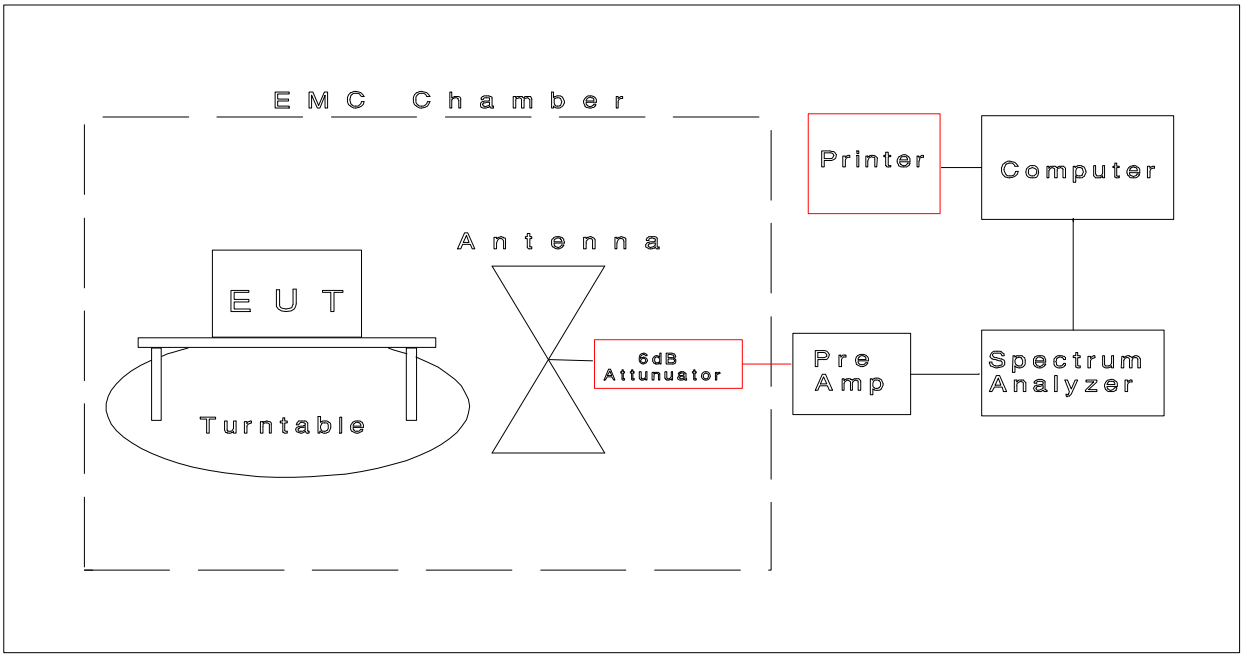
The configuration of the intentional radiator was varied to find the maximum radiated emission. The EUT was connected to the peripherals listed in Section 2.4 via the interconnecting cables listed in Section 2.5. These interconnecting cable were manipulated manually by a technician to obtain worst case radiated emissions. The intentional radiator was rotated 360 degrees, and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission. Where there were multiple interface ports all of the same type, cables are either placed on all of the ports or cables added to these ports until the emissions do not increase by more than 2 dB.

Desktop intentional radiator is measured on a non-conducting table one meter above the ground plane. The table is placed on a turntable which is level with the ground plane. The turntable has slip rings, which supply AC power to the intentional radiator. For equipment normally placed on floors, the equipment shall be placed directly on the turntable.

Type of Equipment	Manufacturer	Model Number	Serial Number
Anechoic Chamber	CCL	N/A	N/A
Test Software	CCL	Radiated Emissions	Revision 1.3
Spectrum Analyzer	Hewlett Packard	8566B	2230A01711
Quasi-Peak Detector	Hewlett Packard	8565A	3107A01582
Biconilog Antenna	EMCO	3141	1045
Double Ridged Guide Antenna	EMCO	3115	9409-4355
Radiated Emissions Cable Anechoic Chamber	CCL	Cable B	N/A
Pre-Amplifier	Hewlett Packard	8447D	1937A03151
Power-Amplifier	Hewlett Packard	8447E	2434A01975
6 dB Attenuator	Hewlett Packard	8491A	32835

All the equipment listed above is calibrated every 12 months by an independent calibration laboratory or by CCL personal following outlined calibration procedures.

Radiated Emissions Test



FCC Sections 15.207 AC Line Conducted Emissions:

The conducted disturbance at mains ports from the ITE was measured using a spectrum analyzer with a quasi-peak adapter for peak, quasi-peak and average readings. The quasi-peak adapter uses a bandwidth of 9 kHz, with the spectrum analyzer's resolution bandwidth set at 100 kHz, for readings in the 450 kHz to 30 MHz frequency ranges.

The conducted disturbance at mains ports measurements are performed in a screen room using a (50 Ω/50 μH) Line Impedance Stabilization Network (LISN).

Where mains flexible power cords are longer than 1 m, the excess cable is folded back and forth as far as possible so as to form a bundle not exceeding 0.4 m in length.

Where the EUT is a collection of ITE with each ITE having its own power cord, the point of connection for the LISN is determined from the following rules:

a) Each power cord, which is terminated in a mains supply plug, shall be tested separately.
b) Power cords, which are not specified by the manufacturer to be connected via a host unit, shall be tested separately.

Exhibit 6

c) Power cords which are specified by the manufacturer to be connected via a host unit or other power supplying equipment shall be connected to that host unit and the power cords of that host unit connected to the LISN and tested.
d) Where a special connection is specified, the necessary hardware to effect the connection is supplied by the manufacturer for the testing purpose.
e) When testing equipment with multiple mains cords, those cords not under test are connected to an artificial mains network (AMN) different than the AMN used for the mains cord under test.

Desktop ITE are placed on a non-conducting table at least 0.8 meters from the metallic floor. The equipment is placed a minimum of 40 cm from all walls. Floor standing equipment is placed directly on the earth grounded floor.

Type of Equipment	Manufacturer	Model Number	Serial Number
Anechoic Chamber Test Site #2	CCL	N/A	N/A
Test Software	CCL	Conducted Emissions	Revision 1.2
Spectrum Analyzer	Hewlett Packard	8566B	2230A01711
Quasi-Peak Detector	Hewlett Packard	8565A	3107A01582
LISN	EMCO	3825/2	9307-1893
Conductance Cable Anechoic Chamber	CCL	Cable A	N/A
Transient Limiter	Hewlett Packard	11947A	3107A00895

An independent calibration laboratory or CCL personal calibrates all the equipment listed above every 12 months following outlined calibration procedures. All measurement instrumentation is traceable to the National Institute of Standards and Technology (NIST). Supporting documentation relative to tractability is on file and is available for examination upon request.

Line Conducted Emissions Test

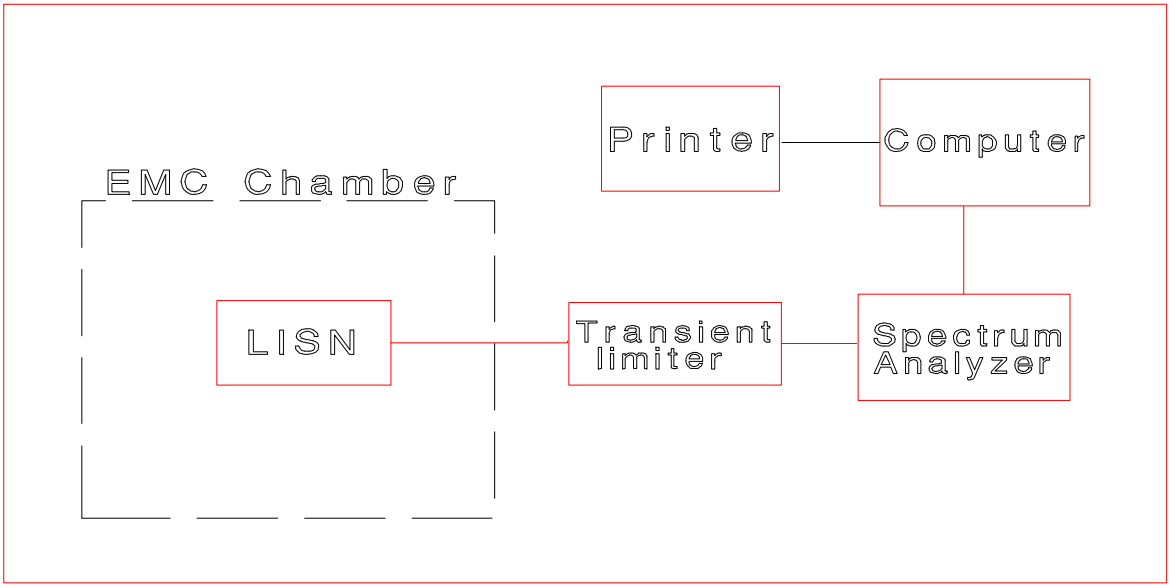


Exhibit 6