

**ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT
INTENTIONAL RADIATOR CERTIFICATION TO
FCC PART 15 SUBPART C REQUIREMENT
TEST REPORT**



FOR

ETHERNET WIRELESS LAN BASE STATION

FCC ID: IMK-HRFGW2

MODEL NO: PROXIM 4940 SYMPHONY HOME RF BASE STATION

REPORT NO: 01U0930-1

TEST DATE: AUGUST 20, 2001

Prepared for

**PROXIM, INC.
510 DE GUIGNE DRIVE
SUNNYVALE, CA 94085, U.S.A.**

Prepared by

**COMPLIANCE CERTIFICATION SERVICES
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NVLAQ[®]
LAB CODE:200065-0

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1. VERIFICATION OF COMPLIANCE

COMPANY NAME : PROXIM, INC.
510 DE GUIGNE DRIVE
SUNNYVALE, CA 94085

TELEPHONE NO : (408) 731-2700

TECHNICAL PERSON : PETE GARCIA/SENIOR RF TECHNICIAN/ (408) 731-2762

INFO. CONTACT : KEITH GLOVER/VP OF FINANCE/ (408) 731-2706

EUT DESCRIPTION : ETHERNET WIRELESS LAN BASE STATION

MODEL NAME : PROXIM 4940 SYMPHONY HOME RF BASE STATION

DATE TESTED : AUGUST 20,2001

LIMITS APPLY TO: FCC PART 15 SECTION 15.247	
TECHNICAL LIMITS	TEST RESULT
Radiated Emission/15.205 & 15.209	Complies
Radiated Emission/15.109	Complies
AC Line Conducted Emission	Complies
Minimum 20dB Bandwidth	Complies
RF Power Output	Complies
Minimum Number of Hopping Channels	Complies
Channel Separation	Complies
Average Time of Channel Occupancy	Complies

Compliance Certification Services tested the above equipment for compliance with the requirements set forth in CFR 47 PART 15, SUBPART C. This said equipment in the configuration described in this report shows the maximum emission levels emanating from equipment are within the compliance requirements.

Tested By:

_____	_____
JESSE SALDIVAR	DATE
ASSOCIATE EMC ENGINEER	
COMPLIANCE CERTIFICATION SERVICES	

Approved & Released By:

_____	_____
STEVE CHENG	DATE
EMC ENGINEERING MANAGER	
COMPLIANCE CERTIFICATION SERVICES	

Warning: This document reports conditions under which testing was conducted and results of tests performed. This document may not be altered or revised in any way unless done so by Compliance Certification Services and all revisions are duly noted in the revision section. Any alteration of this document not carried out by Compliance Certification Services will constitute fraud and shall nullify the document.

2. DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

The product is a FHSS WLAN adapter operating in the 2.4-2.4835GHz band with a nominal TX output power of 100mW. It is a small desktop box with associated wall plug mounted 12V DC power supply.

3. ANTENNA CONNECTION

To comply with 15.203, The ETHERNET WIRELESS LAN BASE STATION is equipped with a permanently attached integral antenna. Please refer to **ATTACHMENT#5: EUT TECHNICAL DESCRIPTION**. Also, refer to **ATTACHMENT# 1: EUT PHOTOS**, which contains a picture of the antenna and its location

4. PSEUDORANDOM HOPPING SEQUENCE

Please refer to **ATTACHMENT#8: CONFIDENTIALITY PACKAGE**.

5. CHANNEL USAGE

Please refer to **ATTACHMENT#8: CONFIDENTIALITY PACKAGE**.

6. THEORY OF OPERATION

Please refer to **ATTACHMENT#8: CONFIDENTIALITY PACKAGE**.

7. THE COORDINATION OF FREQUENCY HOPPING SYSTEM

Please refer to **ATTACHMENT#8: CONFIDENTIALITY PACKAGE**.

8. RECEIVER TECHNICAL INFORMATION

To describe system receiver input bandwidth and system receiver hopping capability
Please refer to **ATTACHMENT#5: EUT TECHNICAL DESCRIPTION** exhibit.

9. TEST LOCATION

All emissions tests were performed at:

Compliance Certification Services
561F Monterey Road
Morgan Hill, CA 95037
Contact Person: Steve Cheng/EMC Engineering Manager

CCS has site descriptions on file with the FCC for 10 and 3-meter site configurations. CCS is a NVLAP accredited facility.

Radiated emissions from the digital portion of the EUT were performed on site A, one of the 10-meter sites.

10. SUPPORT EQUIPMENT

EVICE TYPE	MANUFACTURER	MODEL NAME	SERIAL NO	FCC ID
PC	E Machine	E Tower 366C	5000359706239	DOC
Monitor	Dell	E550	MY07753T	JVP7254E
Keyboard	Acer	6511-TW	9166007X3186311	JVPKBS-WIN

TEST EQUIPMENT

EQUIPMENT TYPE	MODEL NAME	SERIAL NO	CAL DUE:
SPECTRUM ANALYZER	HP8566B	3014A06685	05/02/02
SPECTRUM ANALYZER	HP8593EM	3710A00205	06/20/02
PRE-AMP	HP8449B 1-26.5G	3008A00369	05/30/02
PRE-AMP	HP8447D .1-1300MHz	2944A06833	08/21/02
PRE-AMP	MITEQ 1-26G	646456	04/12/02
BILOG ANTENNA	SCHAFFNER- CHASE 30M-2G	CBL6112B	12/11/01
EMCO HORN ANTENNA	3115 1-18G	9001-2238	01/9/02
ARA HORN ANTENNA	MWH-1826 18-26G	1013	07/26/02
EMI Test Receiver	Rhode & Schwarz	827129/006	04/02/02
LISN	Fischer FCC-LISN- 50/250-25-2	114	08/08/02
High Pass Filter	FSY Microwave	001	N/A
Power Meter	HP 436A	2709A29209	4/2/02
Power Sensor	HP 8482A	2349A08568	4/2/02
High Pass Filter	FSY HM4570-9SS	103	N/A

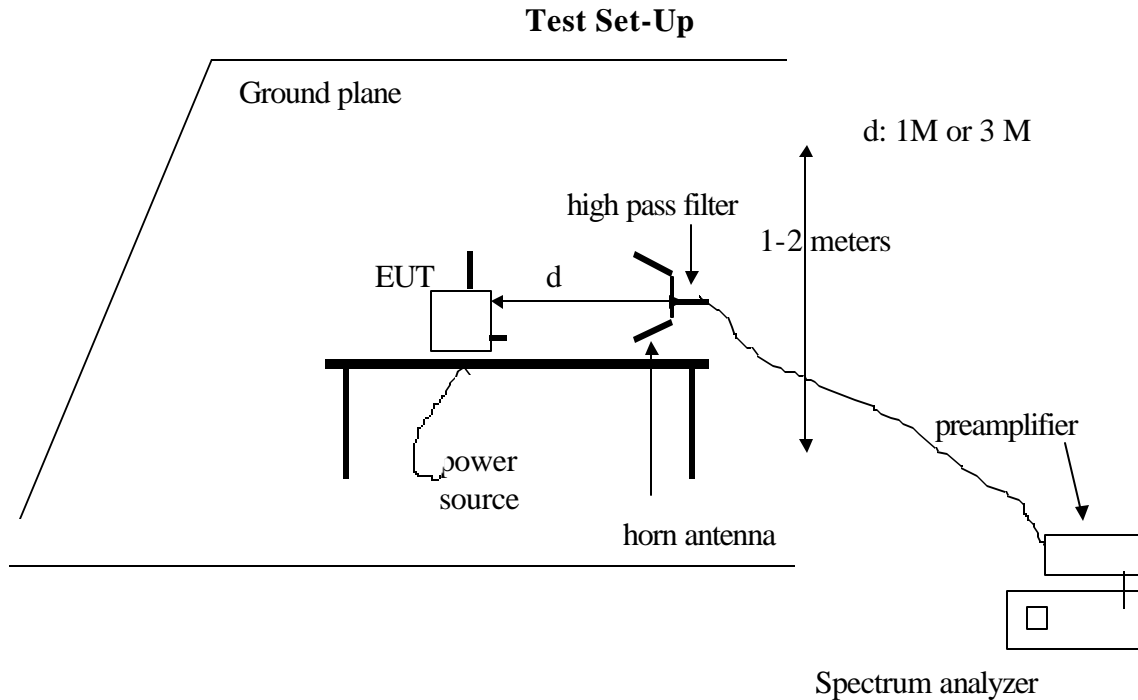
11. TEST PROCEDURES AND TEST RESULTS

Radiated Emissions (Restricted Bands of Operation)

Test Requirement: 15.205

Measurement Equipment Used:

HP 8593EM Spectrum Analyzer
HP8449B PRE-AMPLIFIER 1 –26.5 GHz
EMCO 3115 Horn Antenna, 1-18 GHz
ARA MWH1826/B Antenna, 18-26 GHz
FLEXCO Cables, 14ft (loss: 0.85 dB/ft@ 26 GHz)
FYS Microwave: High Pass Filter 4.305 GHz
NBP-1011: Band Pass Filter 4-8 GHz



TEST PROCEDURES:

1. The EUT was placed on a wooden table on the outdoor ground plane. The search antenna was placed 3 M and 1 M from the EUT. Measurement distance is chosen so that the noise floor of the measurement system is at least 6dB below the specification limits. The EUT frequency hopping sequence disabled and set the EUT to transmit at its lowest channel first.
2. The turntable was slowly rotated to locate the direction of maximum emission at each emission falling in the restricted bands of 15.205.
3. Once maximum direction was determined, the search antenna was raised and lowered in both vertical and horizontal polarizations. The maximum readings so obtained are recorded in the data listed below.
4. Steps 1 to 3 were repeated for the middle and high channel.

TEST RESULTS:

Refer to attached spreadsheets.

PROXIM RADIATED EMISSION WITH 0dB GAIN ANT (data taken at 1m)

Frequency	SA Peak Reading (dBuV)	SA Ave Reading (dBuV)	cable loss (dB)	Filter Loss (dB)	Antenna Factor (dB)	Amp Gain (dB)	Distance Factor (dB)	Corrected 3m PK reading (dBuV)	Corrected 3m AV reading (dBuV)	Peak limit (dBuV)	Average limit (dBuV)	Peak Margin (dB)	Average Margin (dB)
Low Channel (2402 MHz)													
4804	42.26	29.9	4.314	0.4	33.412	31.25	9.54	39.596	27.236	73.98	53.98	-34.384	-26.744
7206	51.95	46.7	5.322	1	37.265	31.25	9.54	54.747	49.497	73.98	53.98	-19.233	-4.483
9608	48.6	38.08	6.275	1	38.1	31.25	9.54	53.185	42.665	73.98	53.98	-20.795	-11.315
12010	46.45	35.4	NF	7.004	1	39.49	31.25	53.154	42.104	73.98	53.98	-20.826	-11.876
14412	49.16	37.2	NF	8.042	1	41.212	31.25	58.624	46.664	73.98	53.98	-15.356	-7.316
Middle Channel (2440 MHz)													
4880	41.84	31	4.351	0.4	33.64	31.25	9.54	39.441	28.601	73.98	53.98	-34.539	-25.379
7320	53.8	46.9	5.362	1	37.356	31.25	9.54	56.728	49.828	73.98	53.98	-17.252	-4.152
9760	52.8	42.5	6.339	1	38.1	31.25	9.54	57.449	47.149	73.98	53.98	-16.531	-6.831
12200	46.6	35.8	NF	7.084	1	39.3	31.25	53.194	42.394	73.98	53.98	-20.786	-11.586
14640	49.22	37.4	NF	8.154	1	40.88	31.25	58.464	46.644	73.98	53.98	-15.516	-7.336
High Channel (2480 MHz)													
4960	42.18	31.8	4.39	0.4	33.88	31.25	9.54	40.06	29.68	73.98	53.98	-33.92	-24.3
7440	46.92	39.1	5.404	1	37.452	31.25	9.54	49.986	42.166	73.98	53.98	-23.994	-11.814
9920	51.9	43.2	6.406	1	38.1	31.25	9.54	56.616	47.916	73.98	53.98	-17.364	-6.064
12400	45.87	34.6	NF	7.168	1	39.1	31.25	52.348	41.078	73.98	53.98	-21.632	-12.902
14880	50.15	38	NF	8.271	1	40.16	31.25	58.791	46.641	73.98	53.98	-15.189	-7.339

NF: Measured noise floor

DISTANCE FACTOR: 1M to 3M measurement distance: -9.5dB
 Correction to extrapolate reading to 3m specification distance

INSTRUMENT USED

ANTENNA: EMCO, 3115, S/N:2238 & ARA, MWH-1826/B, S/N:1013
 SPECTRUM ANALYZER: HP8593EM, S/N3710A00205

PRE-AMP: MITEQ, NSP2600-44, S/N:646456

PRE-AMP: HP8449B, S/N:3008A00369

CL: Cable loss (15ft)

HPF: High pass filter insertion loss (4.6GHz) FSY (S/N: 001)

	ANALYZER SETTINGS	
	Res bw	Avg. bw
PEAK(Pk):	1MHz	1MHz
AVERAGE(Avg):	1MHz	10Hz

CORRECTED FIELD STRENGTH = SA reading +Cable Loss+ Filter Loss +Ant Factor - Amp Gain - (1 to 3 m conversion factor)

LIMIT: 500 uV = 20 x log 500 = 53.98 dBuV

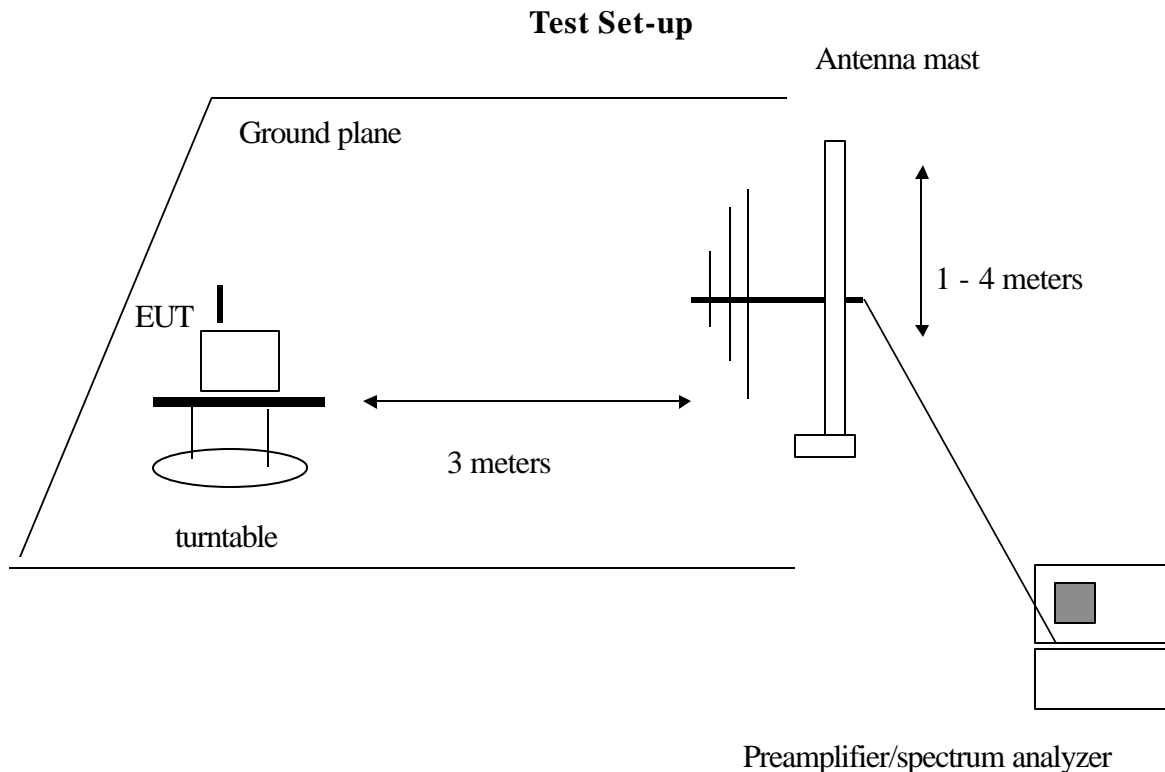
NOTE: MEASURED HORIZONTAL (H) AND VERTICAL (V) (worse case vertical)

Radiated Emissions

Test Requirement: 15.209

Measurement Equipment Used:

HP 8566B Spectrum Analyzer
SCHAFFNER-CHASE BILOG Antenna, 30 - 2 GHz
HP 8447D Amplifier



TEST PROCEDURE:

The EUT was placed on a turntable at a distance of 3 meters from a BILOG search antenna. The unit was set to transmit while hopping normally. The antenna was raised and lowered, the EUT rotated on the turntable, until the EUT azimuth, antenna elevation, and antenna polarity were found which yielded maximum received emission levels on the spectrum analyzer.

TEST RESULTS:

Refer to attached tabular data sheet.



FCC, VCCI, CISPR, CE, AUSTEL, NZ
 UL, CSA, TUV, BSMI, DHHS, NVLAP

561F MONTEREY ROAD, SAN JOSE, CA 95037-9001
 PHONE: (408) 463-0885 FAX: (408) 463-0888

Project #: 01U0930-1
Report #: 010817A1
Date & Time: 08/17/01 11:53 AM
Test Engr: Jesse Saldivar

Company: Proxim, Inc.
EUT Description: 2.4GHz FHSS WLAN Adapter Model: 4940
Test Configuration : EUT/ PC for Configuration
Type of Test: FCC Class B
Mode of Operation: Normal Hopping Mode



Freq. (MHz)	Reading (dBuV)	AF (dB)	Closs (dB)	Pre-amp (dB)	Level (dBuV/m)	Limit FCC B	Margin (dB)	Pol (H/V)	Az (Deg)	Height (Meter)	Mark (P/Q/A)
125.00	53.50	13.20	1.53	27.69	40.54	43.50	-2.96	3mV	180.00	1.00	P
750.00	46.70	20.55	4.21	28.79	42.67	46.00	-3.33	3mV	180.00	1.00	P
750.00	46.20	20.55	4.21	28.79	42.17	46.00	-3.83	3mH	270.00	1.50	P
500.00	46.00	18.60	3.27	28.57	39.30	46.00	-6.70	3mV	180.00	1.00	P
225.00	51.40	12.85	2.00	27.35	38.90	46.00	-7.10	3mH	180.00	1.50	P
450.00	45.50	17.70	3.05	28.27	37.98	46.00	-8.02	3mH	180.00	1.50	P
6 Worst Data											

AC Line Conducted Emissions

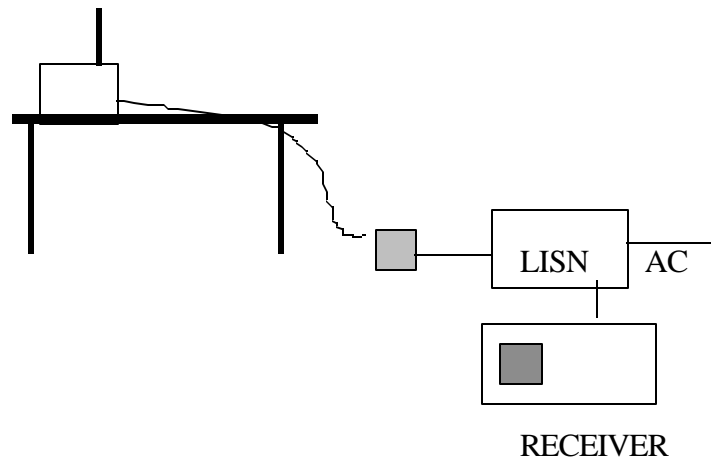
Test Requirement: 15.207

Measurement Equipment Used:

Rhode & Schwarz EMI Receiver ESHS-20

Fischer Custom Communication LISN, FCC-LISN-50/250-25-2

Test Set-up



TEST PROCEDURES:

1. The EUT was placed on a wooden table 40 cm from a vertical ground plane and approximately 80 cm above the horizontal ground plane on the floor. The unit was set to transmit while hopping normally.
2. Line conducted data was recorded for both NEUTRAL and HOT lines.

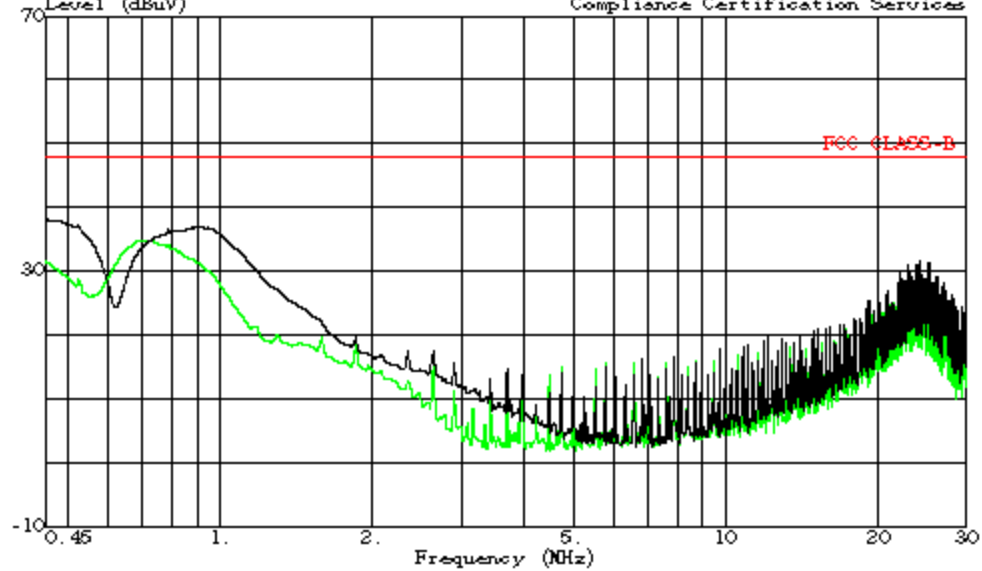
TEST RESULT:

Refer to attached graph.



561 F Monterey Road, Route 2
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Data#: 7 File#: 01U0930.EMI Date: 08-17-2001 Time: 09:31:19
Level (dBuV) Compliance Certification Services



Trace: 3
Project No. : 01U0930-1
Report No. : 0108161c
Test Engr : Hue Ly Vang
Company : Proxim, INC.
EUT Description : SYMPHONY HOME RF BASESTATION
Model : 4940
EUT Config. : EUT
Type of Test : FCC CLASS B
Mode of Operation: NORMAL
PEAK: L1 (Green), L2 (Black)
: 115Vac, 60Hz

Ref Trace:

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DOCUMENT NO: CCSUP4025B

561 F. Monterey, Rd. Route 2 Morgan Hill, CA.

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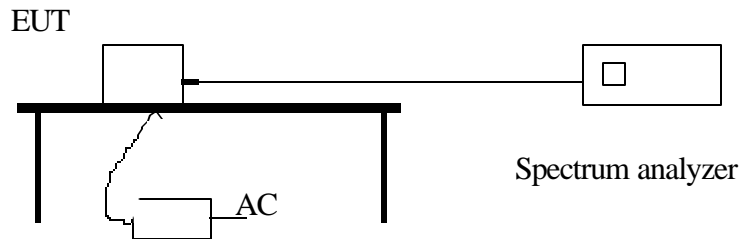
Out of Band Emission-Conducted

Test Requirement: 15.247(c)

Measurement Equipment Used:

HP 8566B Spectrum Analyzer

Test Set-up



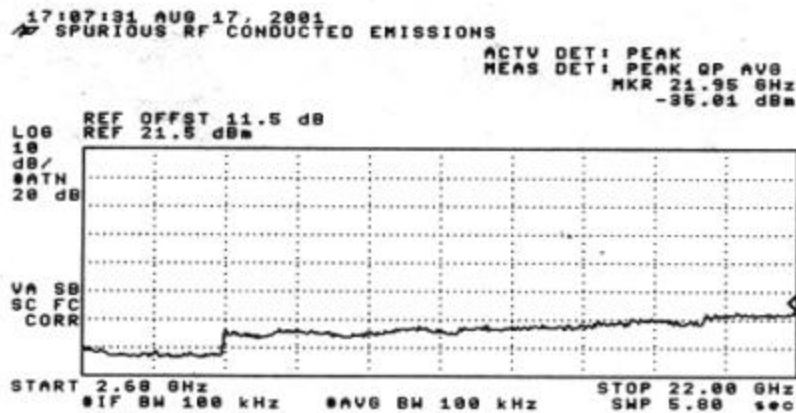
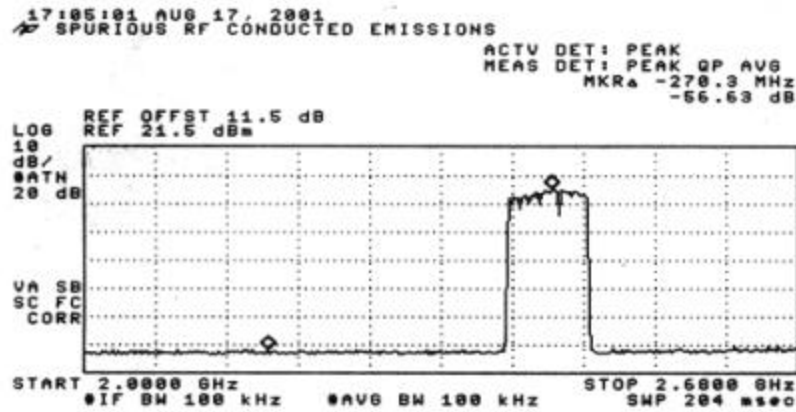
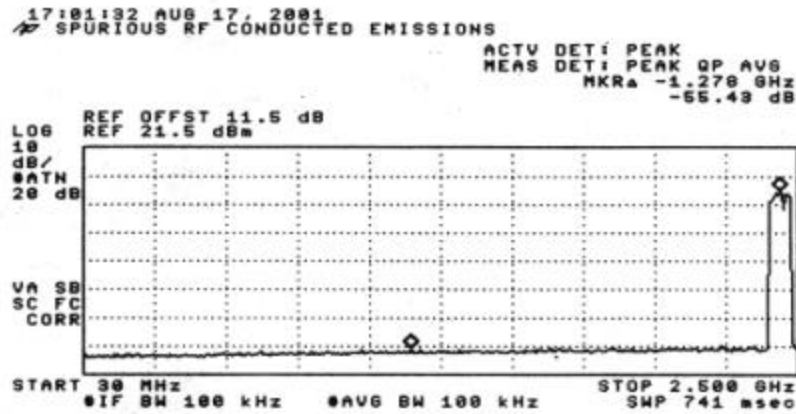
TEST PROCEDURES:

The RF test port of the EUT was connected to the spectrum analyzer through a 6 inch RG-316 cable. Total path loss including cable and attenuator at 2.4-2.5 GHz was 11.5dB.

The EUT was configured on a test bench as shown above. The EUT was set to transmit while hopping normally. The spectrum analyzer was placed in MAX Hold mode, and individual sweeps were recorded with spectrum analyzer RES BW and VID BW set to 100KHz. The first plot shows spectrum analyzer START FREQUENCY set to 30 MHz and STOP FREQUENCY set to 2.5GHz. The second plot shows spectrum analyzer START FREQUENCY set to 2.0GHz and STOP FREQUENCY set to 2.68GHz. The third plot shows spectrum analyzer START FREQUENCY set to 2.6GHz and STOP FREQUENCY set to 22GHz. All emissions were compared to the 20-dB attenuation requirement.

TEST RESULTS:

Please refer to attached plots.



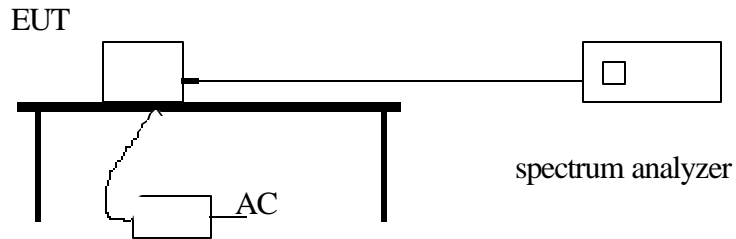
BAND-EDGE

Test Requirement: 15.247(c)

Measurement Equipment Used:

HP 8566B Spectrum Analyzer

Test Set-up



TEST PROCEDURES:

The RF test port of the EUT was connected to the spectrum analyzer through a 6 inch RG-316 cable. Total path loss including cable and attenuator at 2.4-2.5 GHz was 11.5 dB.

The EUT was configured on a test bench as shown above. The EUT was made to transmit uninterrupted random data on the low and high channel.

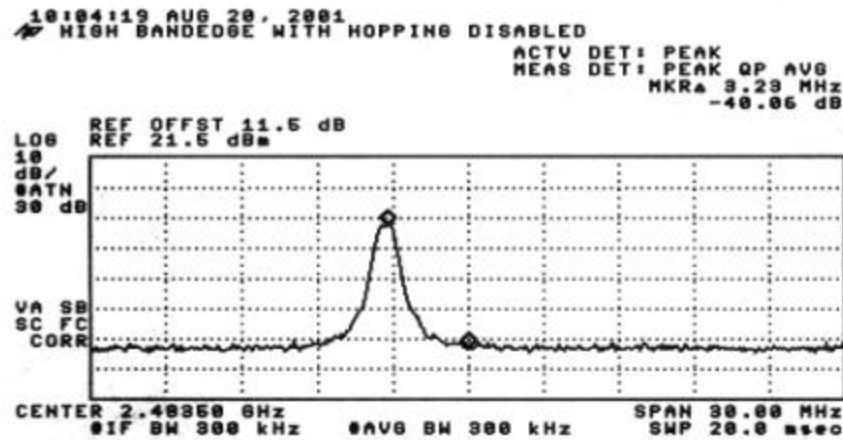
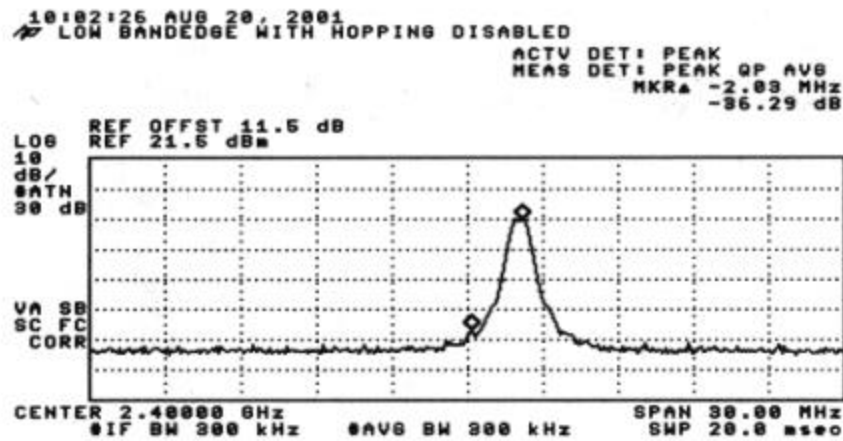
For low channel Bandedge, the spectrum analyzer start frequency is set to 2.360GHz. Stop frequency set to 2402 MHz. Resolution BW is set to 300KHz. Video BW is set to 300KHz. The spectrum analyzer was put into MAX HOLD mode. Using the marker function, the delta between the signal level at Low Channel and the signal level at 2400MHz was determined.

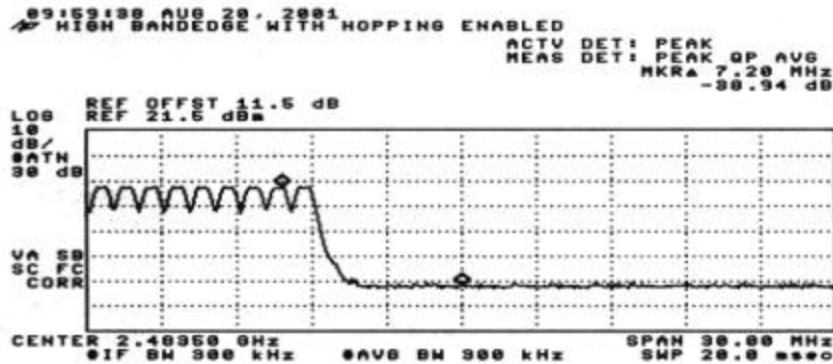
The above steps were repeated for HIGH Channel (2480 MHz) with delta markers set to High Channel (2480 MHz) and 2483.5 MHz.

To ensure that EUT will continue compliance with the Band-edge emission in normal hopping mode operation; the EUT was put back to the normal working condition (i.e. hopping mode enabled). And test repeated again.

TEST RESULTS:

Please refer to attached plots.



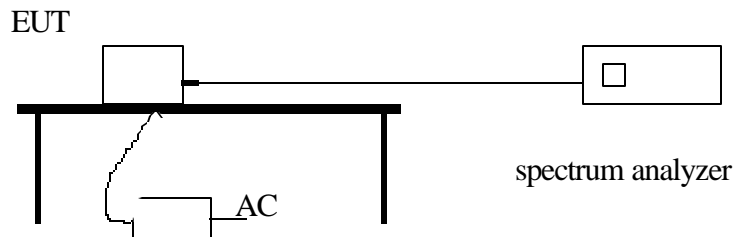


20dB Bandwidth for FHSS

Test Requirement: 15.247(a)1(ii)

Measurement Equipment Used:
HP 8566B Spectrum Analyzer

Test Set-up



TEST PROCEDURES:

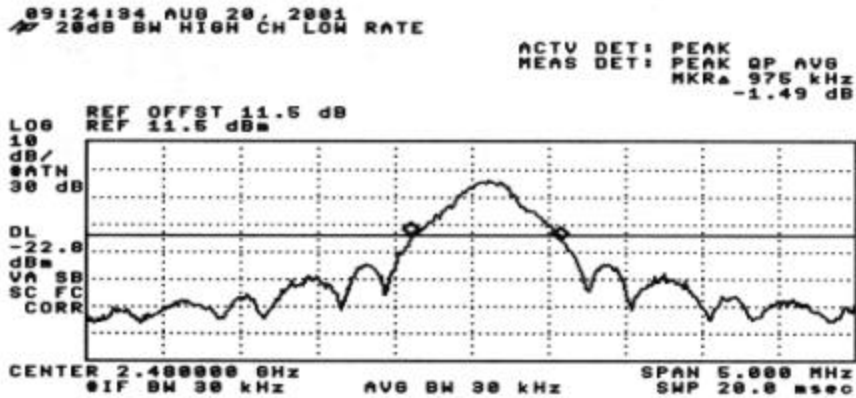
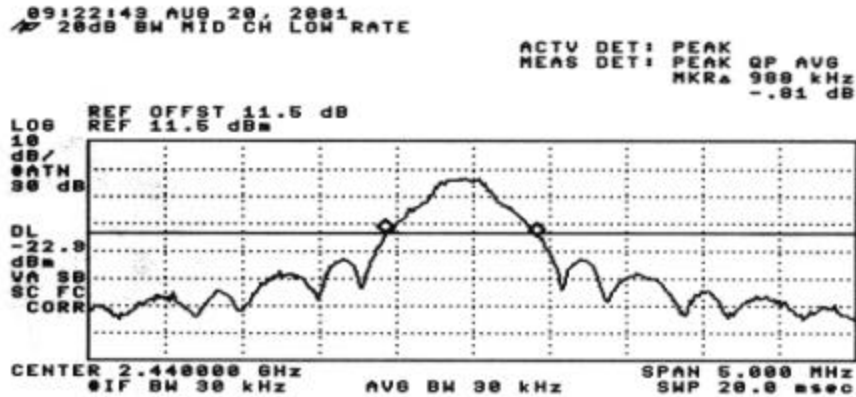
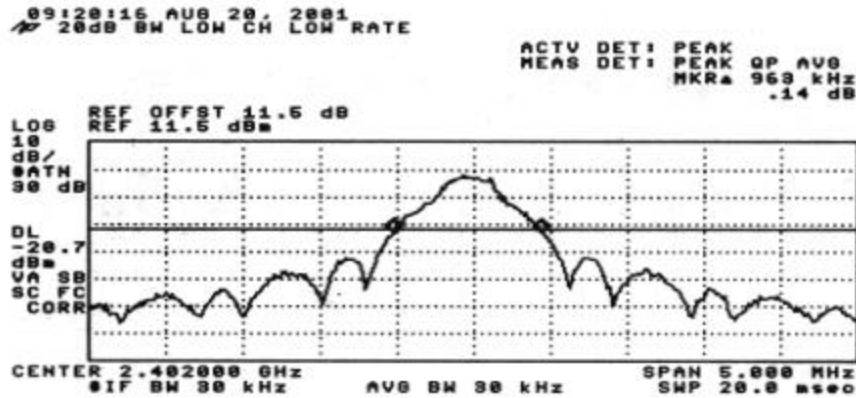
The RF test port of the EUT was connected to the spectrum analyzer through a 6 inch RG-316 cable. Total path loss including cable and attenuator at 2.4-2.5 GHz was 11.5dB.

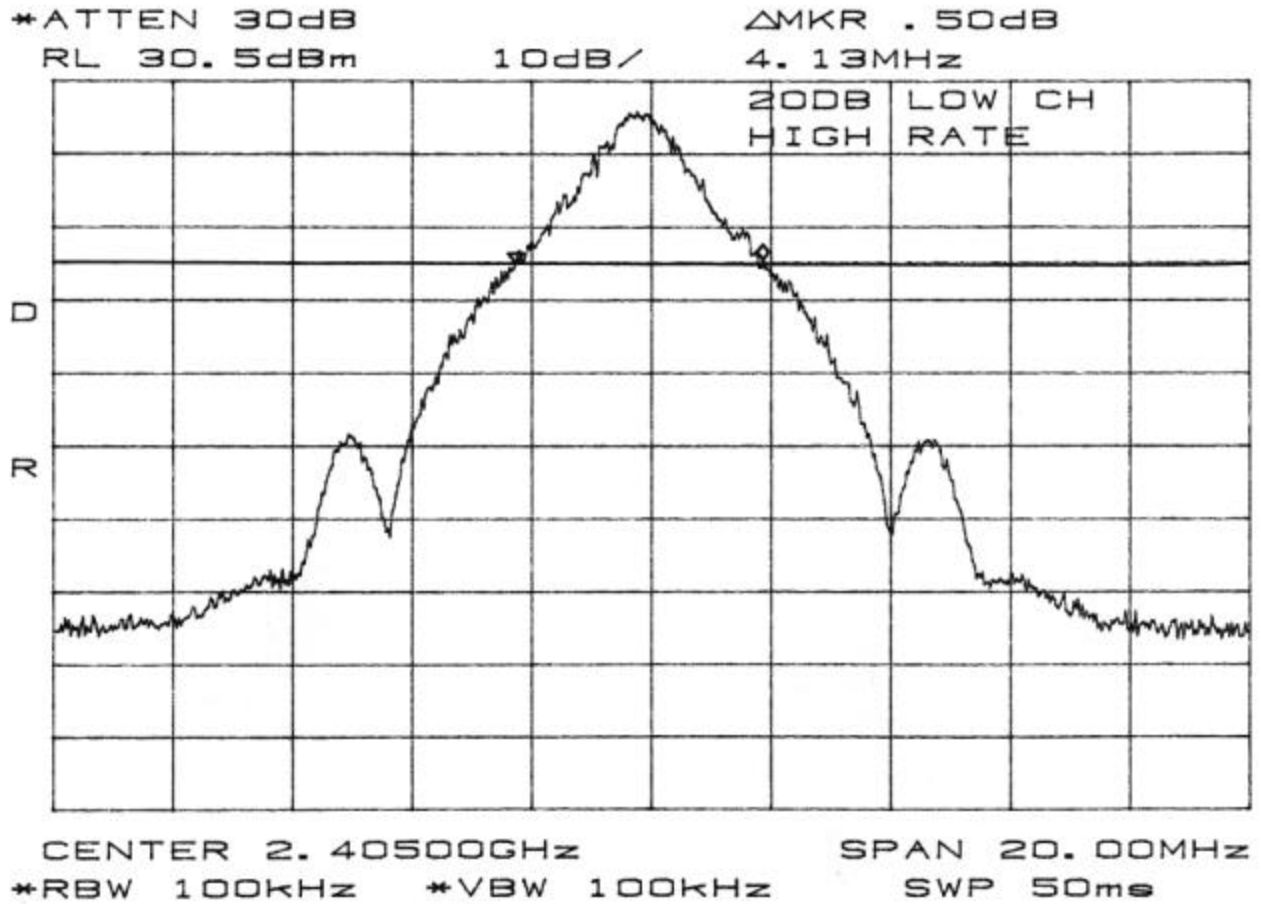
The EUT was configured on a test bench as shown above. The EUT was made to transmit uninterrupted random data on each of the low/mid/high channels. Spectrum analyzer CENTER FREQUENCY set to Low Channel (2402 MHz). SPAN set to 5 MHz. RES BW=30 kHz. The above steps were repeated for MID Channel (2440 MHz) and HIGH Channel (2480 MHz).

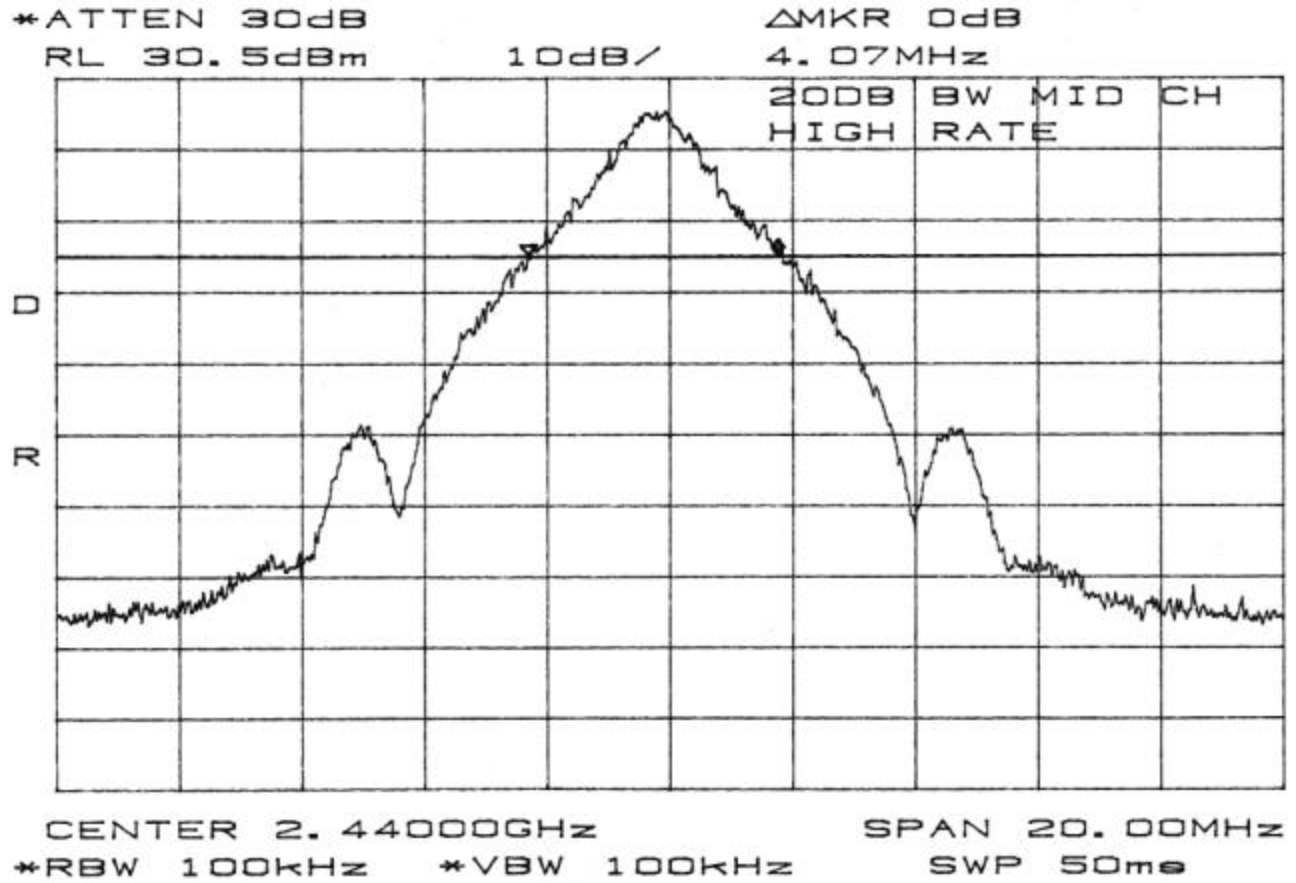
The low/mid/high channels for high rate mode are 2405, 2440, and 2475 MHz. Spectrum analyzer SPAN set to 20 MHz and RES BW=VID BW=100 kHz.

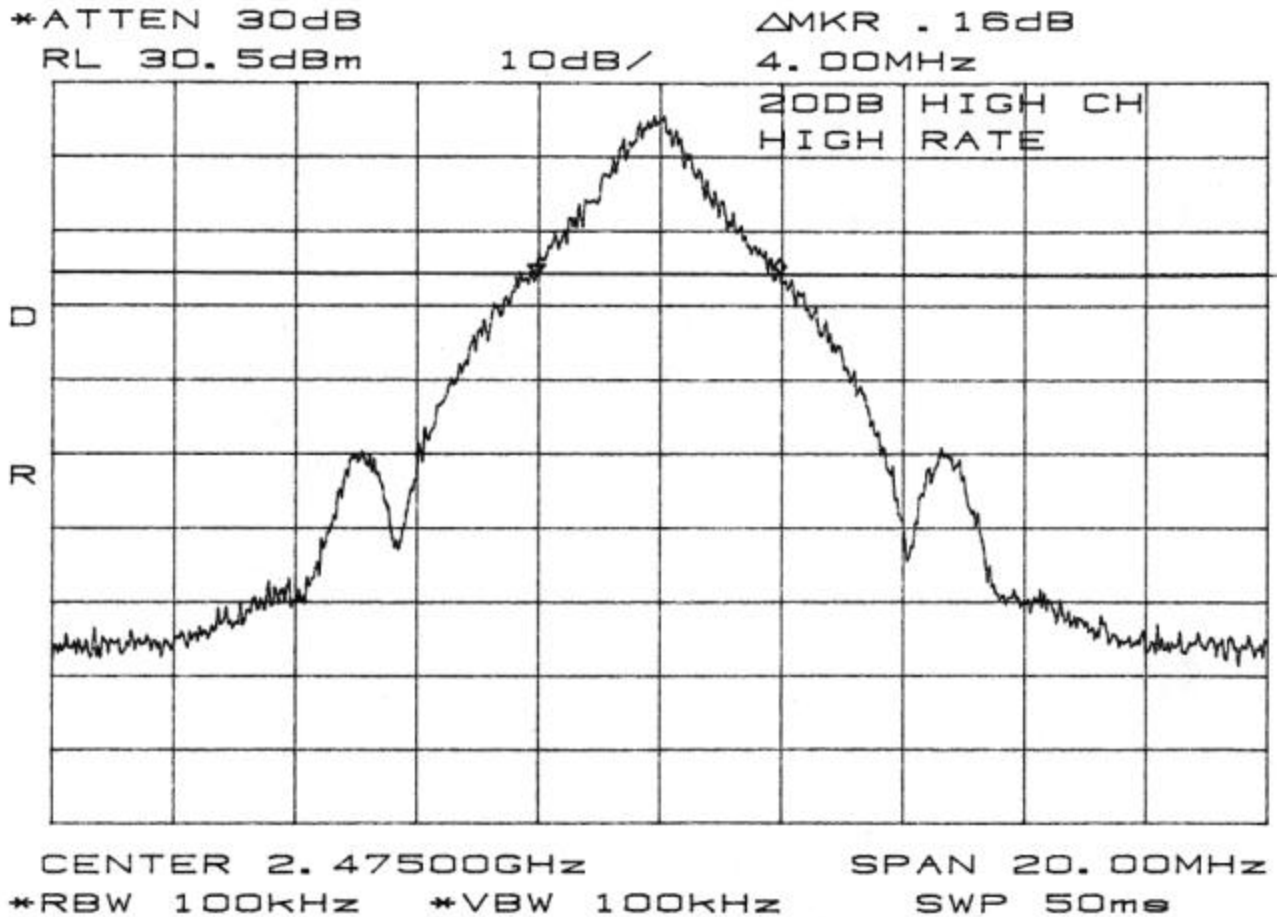
TEST RESULTS:

Refer to attached spectrum analyzer data chart and plots.









RF Power Output

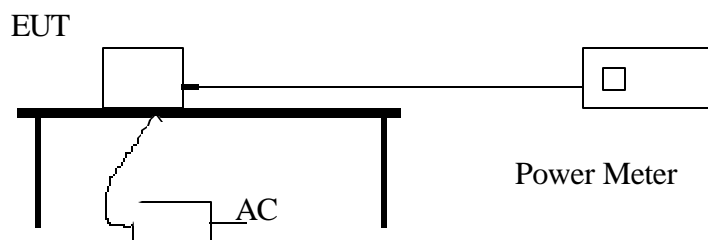
Test Requirement: 15.247(b)

Measurement Equipment Used:

HP 436A Power Meter

HP 8482A Power Sensor

Test Set-up



TEST PROCEDURES:

The RF test port of the EUT was connected to the power meter through a 6-inch RG-316 cable.

The EUT was configured on a test bench as shown above. The EUT was made to transmit uninterrupted random data on each of the low/mid/high channels. Using power meter, measurements were taken with EUT set to Low Channel (2402MHz). The above steps were repeated for Middle Channel (2440 MHz) and High Channel (2480 MHz).

TEST RESULTS:

CHANNEL	dBm	Watts	LIMIT (W)	LIMIT (dBm)	RESULT
2402MHz	18.82	.0765	1	30	COMPLIES
2440MHz	18.62	.0729	1	30	COMPLIES
2480MHz	18.45	.0701	1	30	COMPLIES

RF EXPOSURE REQUIREMENT

Test Requirement: 15.247(b)(4)

§ 1.1310 Radio frequency radiation exposure

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field Strength (V/m)	Magnetic field Strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(B) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	.614	1.63	*(100)	30
1.34–30	.824/f	2.19/f	*(180/f ²)	30
30–300	27.5	0.073	0.2	30
300–1500			f/1500	30
1500–100,000			1.0	30

Test result:

TABLE 1 (B) LIMITS FOR GENERAL POPULATION/UNCONTROLLED EXPOSURE

<u>F(MHz)</u>	<u>(POWER DENSITY (mW/cm²))</u>
1500 - 100,000	1

Transmitter Output power is **0.1 Watts** and will be used with a **0 dBi** antenna

Computation method:

$$P = E^2 / 3770$$

$$\sqrt{E^2} = \sqrt{1 \text{ mW/cm}^2 * 3770}$$

$$E = 61.4 \text{ V/m}$$

$$E = \frac{\sqrt{30 * P * G}}{D}$$

$$D = \frac{\sqrt{30 * 0.085 * 1.26}}{61.4 \text{ V/m}}$$

$$D = 2.92 \text{ cm}$$

$$2.92 / 2.54 = 1.15 \text{ inch}$$

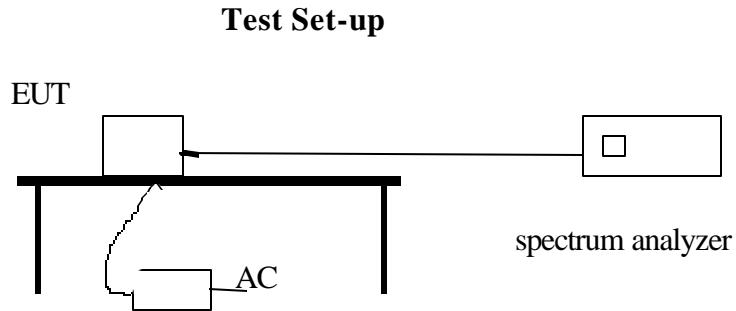
MPE distance requirement is 1.15 inch. A warning statement with a MPE distance requirement of 20cm is placed in the manual.

Minimum Number of Hopping Channel

Test Requirement: 15.247(a)1(ii)

Measurement Equipment Used:

HP 8566B Spectrum Analyzer



TEST PROCEDURES:

1. The RF test port of the EUT was connected to the spectrum analyzer through a 6 inch RG-316 cable. Total path loss including cable and attenuator at 2.4-2.5 GHz was 11.5dB.
2. Turn on the transmitter in normal hopping mode. The emissions will “paint” the spectrum analyzer screen with individual traces from each transmit channel. Allow the transmitter to run for at least 3 minutes or until there are no more changes to the display.
3. Count the number of individual channel traces and compare to the design goal.

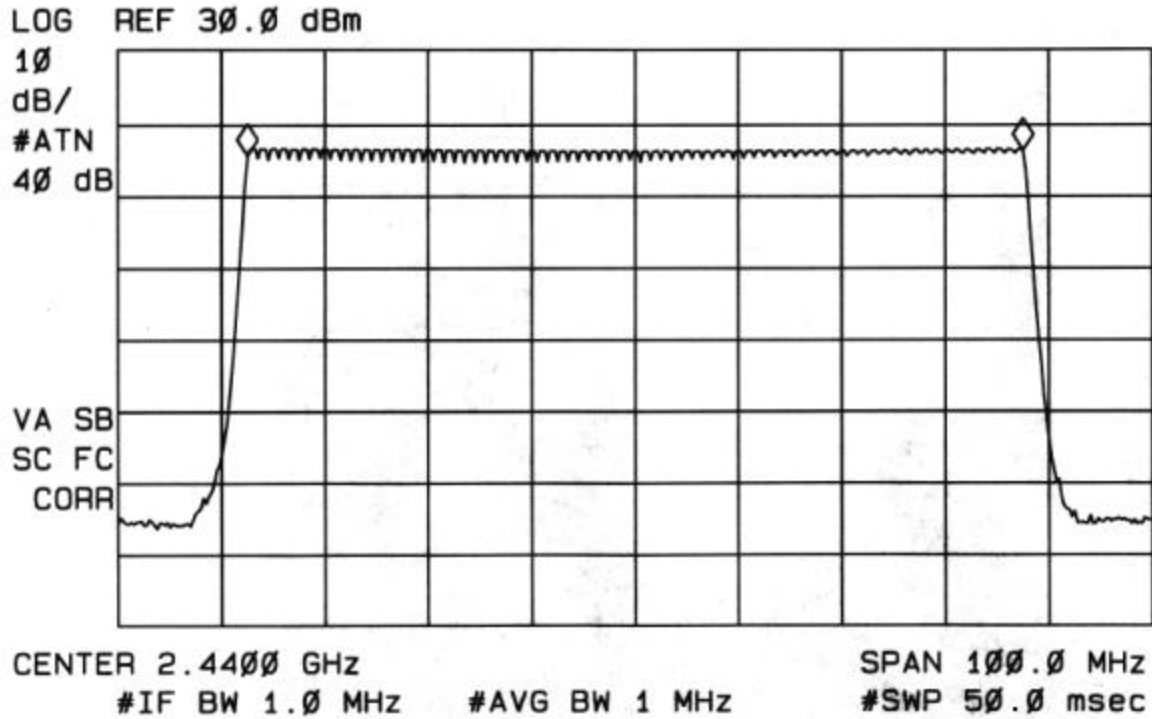
TEST RESULTS:

Frequency Range	Number of Hopping Channel
2.40000-2.48000GHz	75

Please refer to attached spectrum plots.

15: 51: 47 AUG 17, 2001
HOME RF # OF HOPPING CHANNELS=75

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 75.0 MHz
.66 dB

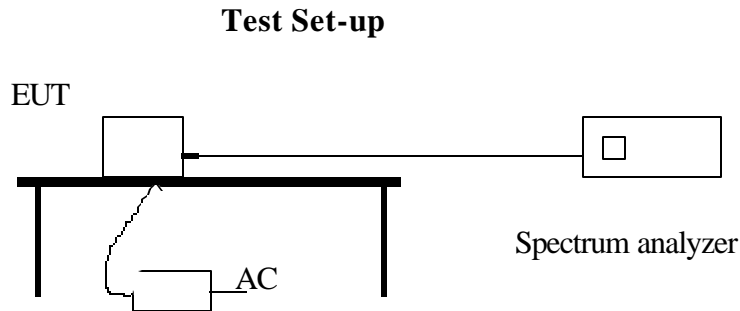


Hop Channel Separation

Test Requirement: 15.247(a)(i)

Measurement Equipment Used:

HP 8566B Spectrum Analyzer



TEST PROCEDURES:

The RF test port of the EUT was connected to the spectrum analyzer through a 6 inch RG-316 cable. Total path loss including cable and attenuator at 2.4-2.5 GHz was 11.5dB.

Turn on the transmitter in normal hopping mode. The emissions will “paint” the spectrum analyzer screen with individual traces from each transmit channel. Allow the transmitter to run for at least 3 minutes or until there are no more changes to the display. Move MARKER to the channel, which appears to have widest Channel separation and calculate the DELTA between two markers.

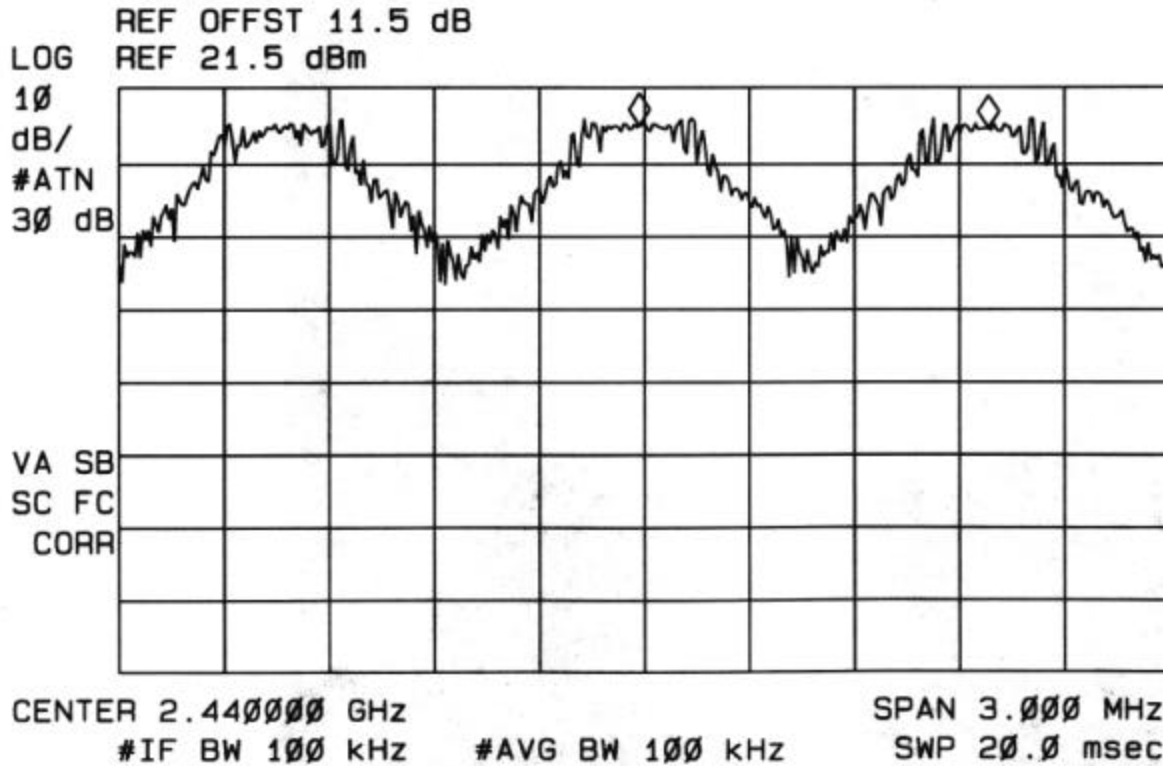
TEST RESULT:

Please refer to attached spectrum plot.

Measured 998 kHz > 988 kHz (limit)

16:02:17 AUG 17, 2001
CARRIER FREQUENCY SEPARATION

ACTV DET: PEAK
MEAS DET: PEAK QP AVG
MKR 998 kHz
-.33 dB



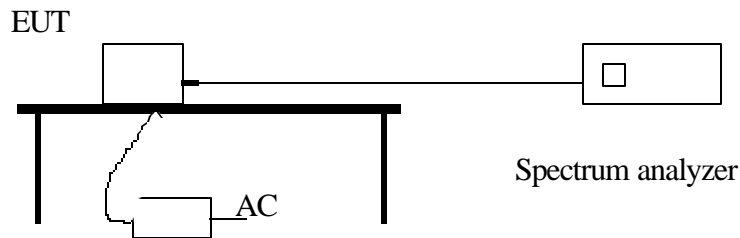
Average Time of Channel Occupancy

Test Requirement: 15.247(a)1 (ii) (iii)

Measurement Equipment Used:

HP 8566B Spectrum Analyzer

Test Set-up



TEST PROCEDURES:

The RF test port of the EUT was connected to the spectrum analyzer through a 6 inch RG-316 cable. Total path loss including cable and attenuator at 2.4-2.5 GHz was 11.5dB.

Set the transmitter to operate in its normal frequency hopping mode.

Set the spectrum analyzer Center Frequency at 2.440GHz. RBW=VBW=300kHz. SPAN set to 0 Hz

Set the Sweep Time to 30 seconds. Set Trace to run Single Sweep. Set the Amplitude function to Linear.

The maximum number of transmissions detected in any 30 Second period will be used to calculate the maximum time of channel occupancy. Using marker and marker delta function, the time required to hop through all channels is determined. Please reference to theory of operation for more information.

The duration of each transmission is measured with the spectrum analyzer center frequency set to 2.440GHz. RBW=VBW=1.0MHz. SPAN set to 0 Hz. SWP set to 50.0msec. Set Trace to run Single Sweep. Set the Amplitude function to Log.

TEST RESULTS:

1. For Low data rate

Average time of single channel occupancy: 0.017 seconds

Average number of times any individual channel is used within any 30 seconds: 20

$20 \times 0.017 = 0.34 \text{ second} < 0.4 \text{ second (limit)}$

Please refer to attached spectrum plots (two pages)

2. For High data rate

(20dB BW=4.13MHz)

-Minimum non-overlapping channels = total span of hopping / channel bandwidth

$75\text{MHz}/4.13\text{MHz} = 18 > \text{(limit at least 15)}$

-Average hops per second

$20 \text{ hops} / 30 \text{ seconds} = 0.667 \text{ hops/second}$

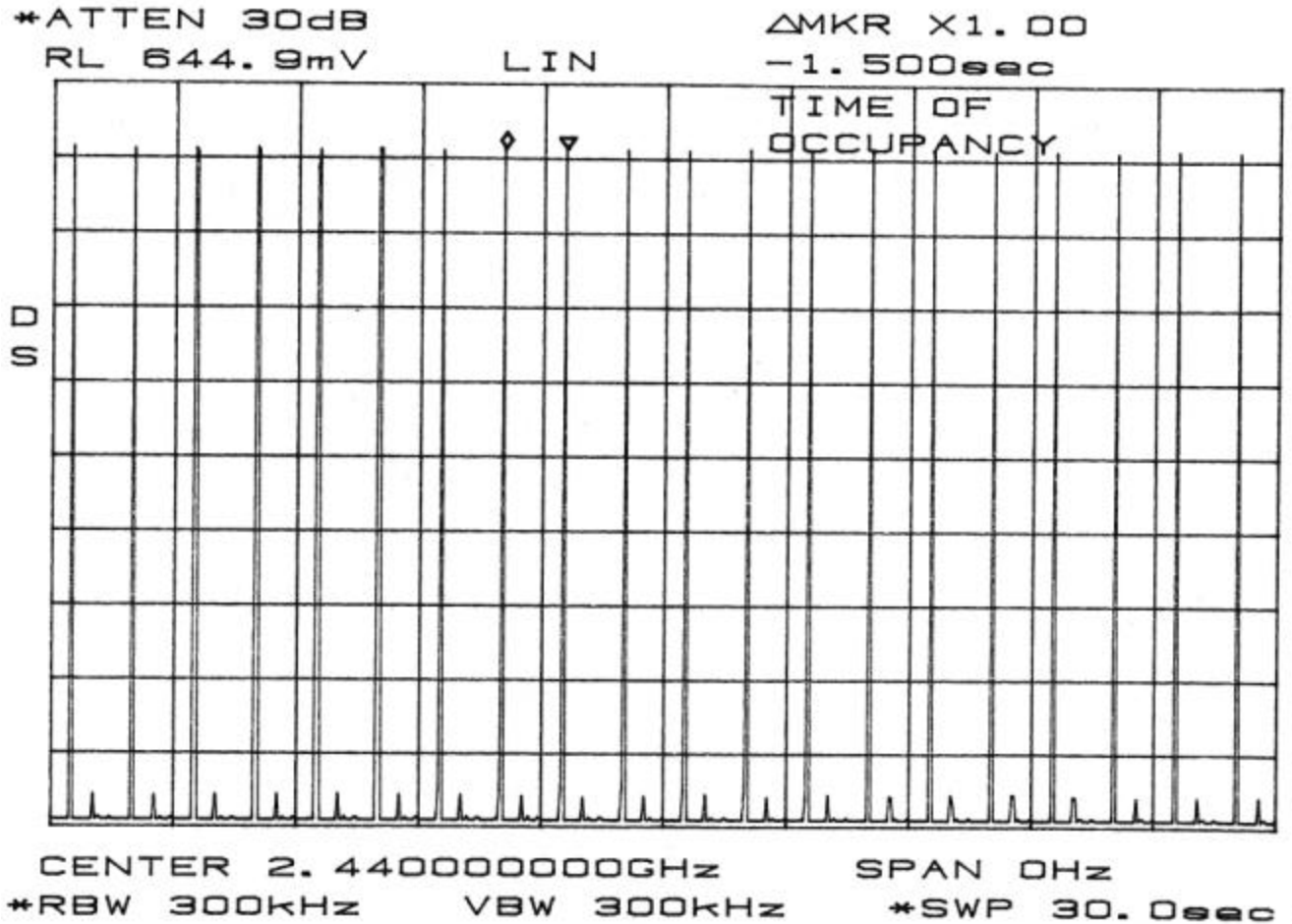
-Time required hopping through all channels

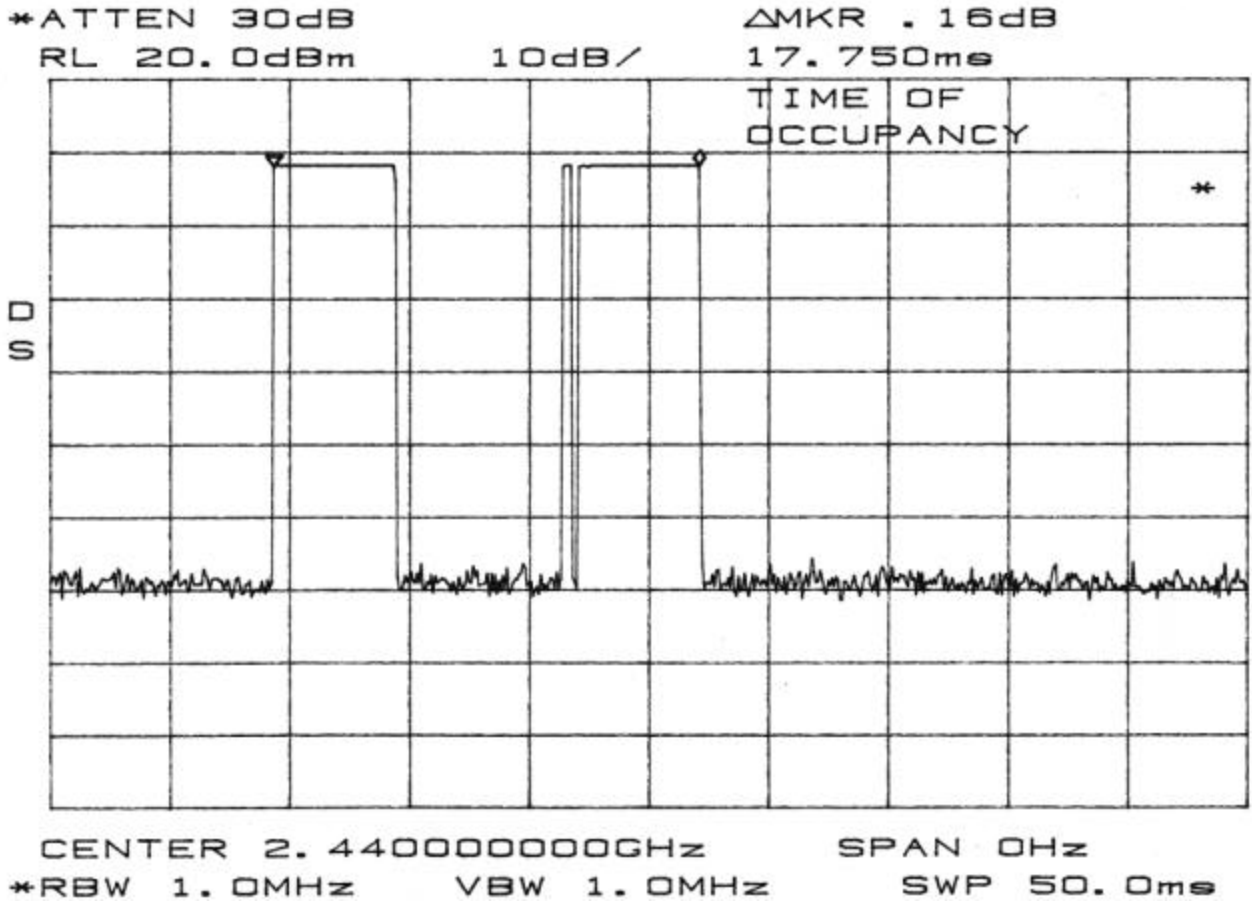
As shown on following page, the time required to hop through all channels is 1.5 Seconds

-The average time of occupancy on any one channel within the time period required hopping through all channels

$0.017 \text{ sec/hop} \times 0.667 \text{ hops/second} \times 1.5 \text{ sec.} = 0.017 \text{ sec.} < 0.4 \text{ sec. (limit)}$

Please refer to two attached spectrum plots.





12. ATTACHMENTS

ATTACHMENT# 1: EUT PHOTOGRAPHS

ATTACHMENT# 2: PROPOSED FCC ID LABEL FORMAT

ATTACHMENT# 3: AGENT AUTHORIZATION LETTER

ATTACHMENT# 4: REQUEST FOR CONFIDENTIALITY LETTER

ATTACHMENT# 5: EUT TECHNICAL DESCRIPTION

ATTACHMENT# 6: USER'S GUIDE

ATTACHMENT# 7: ANTENNA REQUIREMENT

ATTACHMENT #8: CONFIDENTIALITY PACKAGE

ATTACHMENT# 9: SET-UP PHOTOS

ATTACHMENT 1

EUT PHOTOS



ATTACHMENT 2

PROPOSED FCC ID LABEL FORMAT

REVISION				
LTR	ECO	DATE	BY	APPR
01	2553	6/26/01	INITIAL RELEASE	WF

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TABLE A
DRAWING TABULATION

PART NO.	ASSY NO.	MODEL	DESCRIPTION	NOTES
2460.1124	8600.0322	4940	SYMPHONY HOMERF BASE STATION	

NOTES: UNLESS OTHERWISE SPECIFIED

1. MATERIAL: 2 MIL MATTE SILVER MYLAR WITH 1 MIL MATTE TOP COAT LAMINATE AND PERMANENT ADHESIVE BACKING.
2. ALL TEXT AND GRAPHICS BLACK ON SILVER BACKGROUND.
3. BOX LINE THICKNESS IS .050 INCHES.
4. FOR TEXT, GRAPHICS AND PMS COLORS USE ARTWORK PROVIDED BY PROXIM.

UNLESS OTHERWISE SPECIFIED	DRAWN	Wm FOSTER	6/22/01
TOLERANCES	DIMENSIONS		
.25+/-	ANGULAR		
.002+/-	*/-		
REMOVE ALL SHARP EDGES APPROX. .002	FINISH		
BACK SURFACES	SEE BOM		
FINISHES APPLY AFTER PRINTING	CHECKED AND APPROVED		

TITLE LABEL, SYMPHONY HOMERF WBFH BASE STATION, FCC	
SIZE B	DRG NO. 2460.1124
SCALE 1:1	REV. 01
FILE NAME 24601124	SHEET 1 OF 1

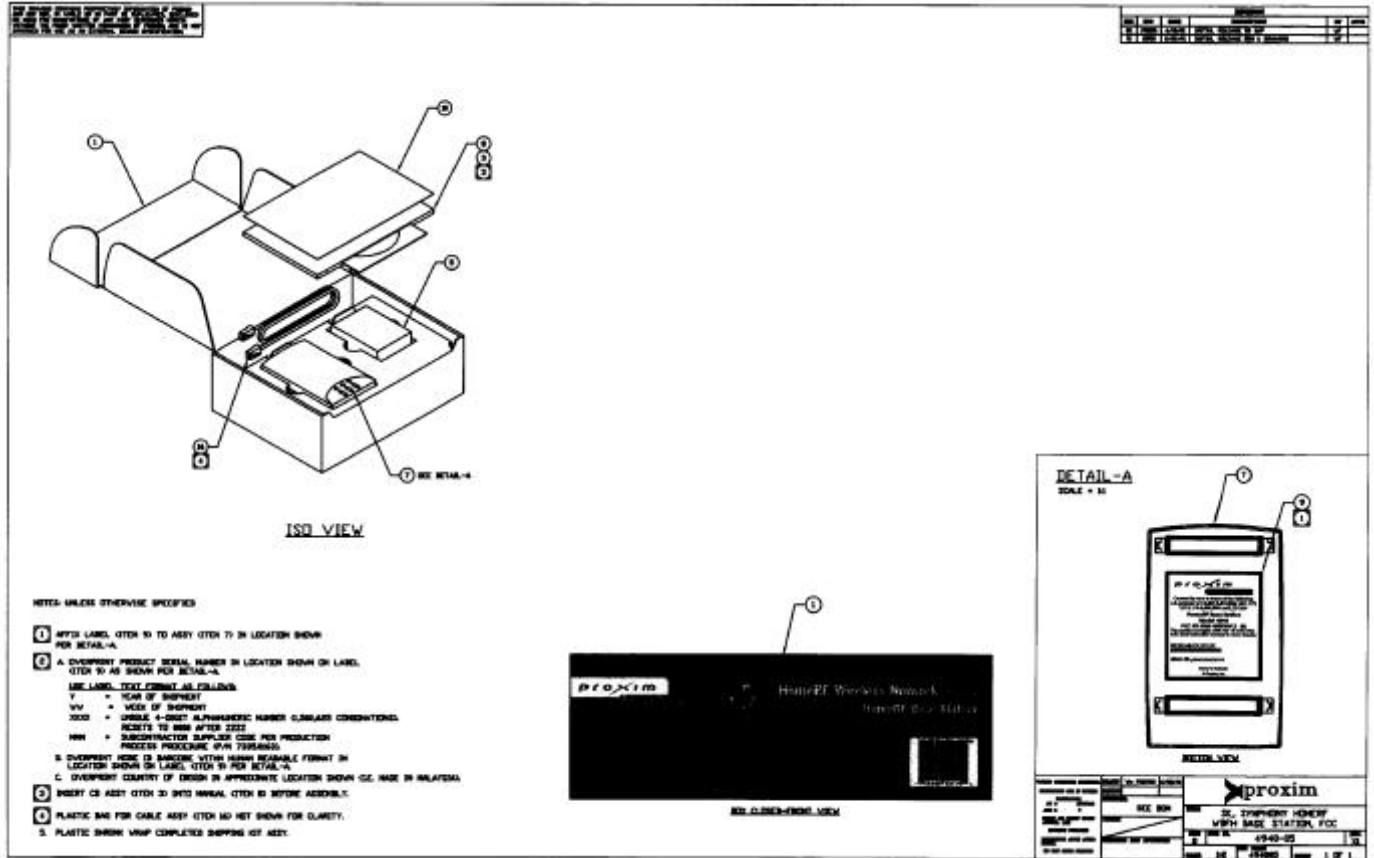
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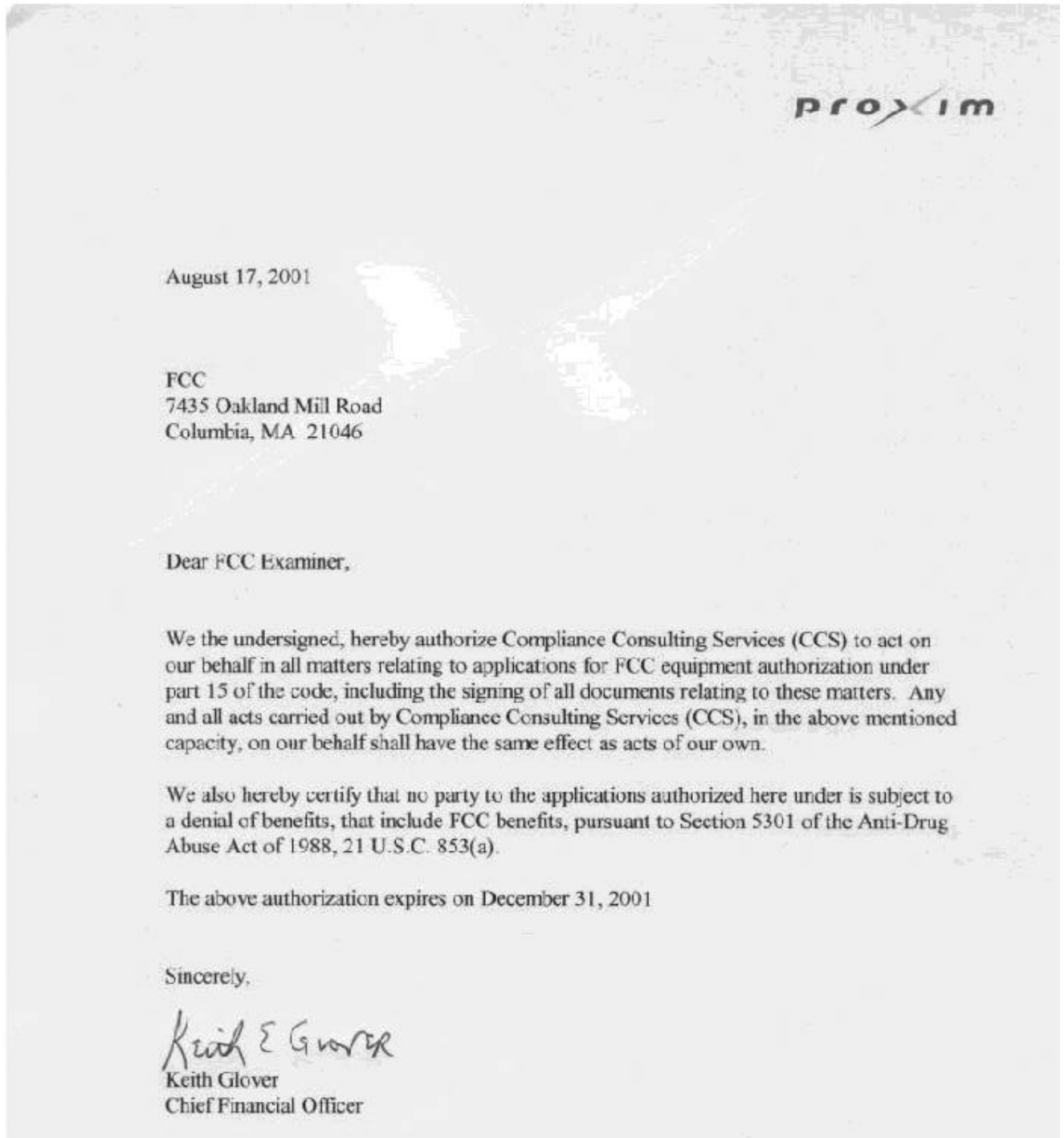
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ATTACHMENT 3

AGENT AUTHORIZATION LETTER



ATTACHMENT 4

REQUEST FOR CONFIDENTIALITY LETTER

