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Required information per ISO/IEC Guide 25-1990, paragraph 13.2:

a) TEST REPORT

b) Laboratory: (FCC: 31040/SIT) (Canada: IC 2044)
M. Flom Associates, Inc.
3356 N. San Marcos Place, Suite 107
Chandler, AZ 85224

c) Report Number: d98b0002

d) Client:
Aironet Wireless Communications, Inc.
P.O. Box 5292
Fairlawn, OH 44334-0292

e) Identification: MI3100
FCC ID: LOZ102036
Description: Frequency Hopping Spread Spectrum

f) EUT Condition: Not required unless specified in individual tests.

g) Report Date: November 3, 1998
EUT Received: October 21, 1998

h, j, k): As indicated in individual tests.

i) Sampling method: No sampling procedure used.

l) Uncertainty: In accordance with MFA internal quality manual.

m) Supervised by:

Morton Flom, P. Eng.

n) Results: The results presented in this report relate only to the item tested.

o) Reproduction: This report must not be reproduced, except in full, without written permission from this laboratory.

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LIST OF GENERAL INFORMATION REQUIRED FOR CERTIFICATION

IN ACCORDANCE WITH FCC RULES AND REGULATIONS,
VOLUME II, PART 2 AND TO

15.247, Confidentiality

Sub-part 2.1033
(c)(1): NAME AND ADDRESS OF APPLICANT:

Aironet Wireless Communications, Inc.
3875 Embassy Parkway
Akron, OH 44333

VENDOR:

Aironet Wireless Communications, Inc.
P.O. Box 5292
Fairlawn, OH 44334-0292

(c)(2): FCC ID: LOZ102036

MODEL NO: MI3100

(c)(3): INSTRUCTION MANUAL(S):

PLEASE SEE ATTACHED EXHIBITS

(c)(4): TYPE OF EMISSION: 773KF2D

(c)(5): FREQUENCY RANGE, MHz: 2400 to 2500

(c)(6): POWER RATING, Watts: 0.065
___ Switchable ___ Variable _x_ N/A

(c)(7): MAXIMUM POWER RATING, Watts: 1

15.203: ANTENNA REQUIREMENT:
___ The antenna is permanently attached to the EUT
___ The antenna uses a unique coupling
___ The EUT must be professionally installed
_x_ The antenna requirement does not apply

PAGE NO. 3 of 25.

Subpart 2.1033 (continued)

(c)(8): VOLTAGES & CURRENTS IN ALL ELEMENTS IN FINAL R. F. STAGE, INCLUDING FINAL TRANSISTOR OR SOLID STATE DEVICE:

COLLECTOR CURRENT, A = per manual
COLLECTOR VOLTAGE, Vdc = per manual
SUPPLY VOLTAGE, Vdc = 3.5

(c)(9): TUNE-UP PROCEDURE:

PLEASE SEE ATTACHED EXHIBITS

(c)(10): CIRCUIT DIAGRAM/CIRCUIT DESCRIPTION: Including description of circuitry & devices provided for determining and stabilizing frequency, for suppression of spurious radiation, for limiting modulation and limiting power.

PLEASE SEE ATTACHED EXHIBITS

(c)(11): LABEL INFORMATION:

PLEASE SEE ATTACHED EXHIBITS

(c)(12): PHOTOGRAPHS:

PLEASE SEE ATTACHED EXHIBITS

(c)(13): DIGITAL MODULATION DESCRIPTION:

___ ATTACHED EXHIBITS
_x_ N/A

(c)(14): TEST AND MEASUREMENT DATA:

FOLLOWS

PAGE NO. 4 of 25.

Sub-part 2.1033(b): TEST AND MEASUREMENT DATA

All tests and measurement data shown were performed in accordance with FCC Rules and Regulations, Volume II; Part 2, Sub-part J, Sections 2.1031, 2.1033, 2.1035, 2.1041, 2.1043, 2.1045, and the following individual Parts:

____	15.209	Radiated emission limits; general requirements
____	15.211	Tunnel radio systems
____	15.213	Cable locating equipment
____	15.214	Cordless telephones
____	15.217	Operation in the band 160-190 kHz
____	15.219	Operation in the band 510-1705 kHz
____	15.221	Operation in the band 525-1705 kHz (leaky coax)
____	15.223	Operation in the band 1.705-10 MHz
____	15.225	Operation in the band 13.553-13.567 MHz
____	15.227	Operation in the band 26-27.28 MHz (remote control)
____	15.229	Operation in the band 40.66-40.70 MHz
____	15.231	Periodic operation in the band 40.66-40.70 MHz and above 70 MHz
____	15.233	Operation within the bands 43.71-44.49, 46.60-46.98 MHz 48.75-49.51 MHz and 49.66-50.0 MHz
____	15.235	Operation within the band 49.82-49.90 MHz
____	15.237	Operation within the bands 72.0-73.0 MHz, 74.6-74.8 MHz and 75.2-76.0 MHz (auditory assistance)
____	15.239	Operation in band 88-108 MHz
____	15.241	Operation in the band 174-216 MHz (biomedical)
____	15.243	Operation in the band 890-940 MHz (materials)
____	15.245	Operation within the bands 902-928 MHz, 2435-2465 MHz, 5785-5815 MHz, 10500-10550 MHz, and 24075-24175 MHz (filed disturbance sensors)
x	15.247	Operation within bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz (spread spectrum)
____	15.249	Operation within the bands 902-928 MHz, 2400-2483.5 MHz, 5725-5875 MHz, and 24.0-24.25 GHz
____	15.251	Operation within the bands 2.9-3.26 GHz, 3.267-3.332 GHz, 3.339-3.3458 GHz, and 3.358-3.6 GHz (vehicle identification systems)
____	15.321	Specific requirements for asynchronous devices operating in the 1910-1920 MHz and 2390-2400 MHz bands (Unlicensed PCS)
____	15.323	Specific requirements for isochronous devices operating in the 1920-1930 MHz sub-band (Unlicensed PCS)

STANDARD TEST CONDITIONS and ENGINEERING PRACTICES

Except as noted herein, the following conditions and procedures were observed during the testing:

In accordance with ANSI C63.4-1992, section 6.1.9, and unless otherwise indicated in the specific measurement results, the ambient temperature of the actual EUT was maintained within the range of 10° to 40°C (50° to 104 °F) unless the particular equipment requirements specify testing over a different temperature range. Also, unless otherwise indicated, the humidity levels were in the range of 10% to 90% relative humidity.

Prior to testing, the EUT was tuned up in accordance with the manufacturer's alignment procedures. All external gain controls were maintained at the position of maximum and/or optimum gain throughout the testing.

Measurement results, unless otherwise noted, are worst case measurements.

PAGE NO. 6 of 25.

NAME OF TEST: Maximum Peak Output Power

SPECIFICATION: 47 CFR 15.247(b)

SPEC. LIMIT: ≤ 1 Watt peak (0,25 if <50 Hopping Channels)

GUIDE: N/A

TEST EQUIPMENT: Attached

MEASUREMENT DATA

ANTENNA GAIN, dBi = 2.1
PEAK OUTPUT POWER, Watts = 0.065
WORST CASE FOR ALL CHANNELS

RADIATED:

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	METER, dBuV	CF, dB	uV/m @ 3m	ERP, dBm	ERP, Watts
2402.000	2402.01667	80.3	32.4	436515.8	15.4	0.035
2450.000	2450.03333	80.2	32.6	431519.1	15.3	0.034
2480.000	2480.20000	82.8	32.7	595662.1	18.1	0.065

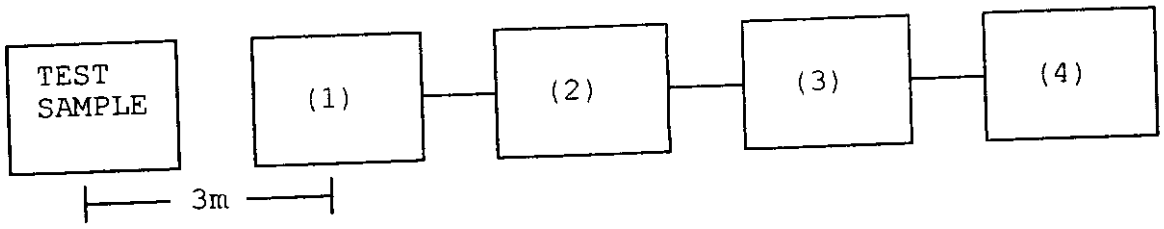
Sample Calculation:
$P_{ERP} = (E_V \times R_M)^2/49.2 = (436515.8 \text{ uV/m} \times 3)^2/49.2 = 0.035$ Watts

SUPERVISED BY:

Morton Flom, P. Eng.

PAGE NO. 7 of 25.

TRANSMITTER RADIATED MEASUREMENTS



	Asset	Description	s/n
(1)		TRANSDUCER	
x	i00091	Emco 3115	001469
x	i00089	Aprel Log Periodic	001500
(2)		HIGH PASS FILTER	
x	i00	Narda μPAD (In-Band Only)	
x	i00	Trilithic (Out-Of-Band Only)	
(3)		PREAMP	
x	i00028	HP 8449 (+30 dB)	2749A00121
(4)		SPECTRUM ANALYZER	
x	i00048	HP 8566B	2511A01467
	i00043	HP 8558B	2004A02076
	i00057	HP 8557A	1531A00191
x	i00029	HP 8563E	3213A00104

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NAME OF TEST: Out of Band Emissions

SPECIFICATION: 47 CFR 15.247(c), 15.209(a)

SPEC. LIMIT: See Below

GUIDE: N/A

TEST EQUIPMENT: As per previous page

SEARCH ANTENNAS:

10 kHz - 32 MHz:	LOOP 94598-1
32 MHz - 1 GHz:	SINGER DM105, $T_1T_2T_3$
1 GHz - 18 GHz:	EMCO 3115

LIMIT

In any 100 kHz bandwidth outside these frequency bands, radio frequency power that is produced by the modulation products of the spreading sequence, 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).

MEASUREMENTS PROCEDURE:

At first, bench tests were performed to locate the emissions ar the antenna terminals.

In the field, tests were conducted over the range shown. The test sample was set up on a wooden turntable above ground, and at a distance of three meters from the antenna connected to the spectrum analyzer.

In order to obtain the maximum response at each frequency, the turntable was rotated, and the search antenna was raised and lowered. The EUT was also adjusted for maximum response.

The field strength was calculated from:

$$E\ \mu V/m\ @\ 3\ m = LOG_{10}^{-1}(dBm + 107 + A.F. + C.L.)$$

The following results are worst case conditions. Tests were conducted in Horizontal and Vertical polarization modes.

MEASUREMENT RESULTS: ATTACHED

PAGE NO. 12 of 25.

NAME OF TEST: Out of Band Emissions
g98a0133: 1998-Oct-21 Wed 10:24:00
STATE: 2:High Power

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	METER, dBuV	CF, dB	uV/m @ 3m	ERP, dBm	MARGIN, dB
2402.000000	4803.600000	49.17	8.3	747.31	-39.95	3.5
2402.000000	4804.133333	40.67	8.3	280.87	-48.45	-5
2450.000000	4900.266666	51.5	8.65	1017.42	-37.25	6.2
2450.000000	4900.733333	43	8.66	382.82	-45.75	-2.3
2480.000000	4959.833333	49.17	8.87	797.99	-39.35	4
2480.000000	4960.066667	41	8.87	311.53	-47.55	-4.1
2402.000000	7207.100000	40.17	12.95	452.9	-44.25	-0.9
2450.000000	7350.166666	47.5	13.27	1092.7	-36.65	6.8
2450.000000	7350.533333	35.67	13.27	279.9	-48.45	-5.1
2480.000000	7439.966667	48.17	13.47	1207.81	-35.75	7.6
2480.000000	7440.333333	37.5	13.47	353.59	-46.45	-3
2402.000000	9608.400000	31.17	15.52	216.02	-50.65	-7.3
2450.000000	9800.566666	30.33	15.75	201.37	-51.25	-7.9
2480.000000	9920.000000	41.67	15.9	755.96	-39.85	3.6
2480.000000	9920.000000	30.83	15.9	217.02	-50.65	-7.3
2402.000000	12010.700000	29	17.21	204.41	-51.15	-7.8
2450.000000	12250.599999	29.17	17.22	208.69	-50.95	-7.6
2480.000000	12400.000000	40.17	17.22	740.46	-39.95	3.4
2480.000000	12400.000000	29.17	17.22	208.69	-50.95	-7.6
2402.000000	14413.000000	28.5	19.37	247.46	-49.55	-6.1
2450.000000	14700.633332	28.5	19.31	245.75	-49.55	-6.2
2480.000000	14880.000000	29.83	19.25	284.45	-48.25	-4.9
2402.000000	16815.300000	28.33	20.41	273.53	-48.65	-5.3
2450.000000	17150.666665	28.5	22.14	340.41	-46.75	-3.4
2480.000000	17360.000000	29.33	23.29	427.56	-44.75	-1.4

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NAME OF TEST: Restricted Bands of Operation

SPECIFICATION: 47 CFR 15.205

GUIDE: N/A

TEST EQUIPMENT: As per attached page

MEASUREMENT PROCEDORE

The EUT was set up on a three meter open field site according to the procedure on ANSI C63.4.

Sensitivity of system was measured:

Below 2 GHz:	
CISPR Bandwidths	= 8 dBµV
1 MHz RBW, 1 MHz VBW	= 12 dBµV
1 MHz RBW, 10 Hz VBW	= 3 dBµV
Above 2 GHz:	
1 MHz RBW, 1 MHz VBW	= 33 dBµV
1 MHz RBW, 10 Hz VBW	= 22 dBµV

Sensitivity of system with preamps:

Below 2 GHz:	
Preamps are not used in this range.	
Above 2 GHz:	
Peak	= 3 dBµV
Average	= -8 dBµV

Cable Loss:

915 MHz	= -0.8 dBµV
2450 MHz	= -3 dBµV

Note:
dB loss vs. frequency included in programmed software.

Reference Level Offset:
set @ 1 dB, accounts for cable and connector loss.

TEST RESULTS: No harmonic or spurious emissions were detected in the restricted bands in excess of the limits of 15.205. System measurement sensitivity was -130 dBm.

M. Flom P.Eng

Morton Flom, P. Eng.

SUPERVISED BY:

PAGE NO. 14 of 25.

NAME OF TEST: Emissions At Band Edges

SPECIFICATION: 47 CFR

GUIDE: N/A

TEST EQUIPMENT: As for "Out of Band Emissions"

MEASUREMENT RESULTS

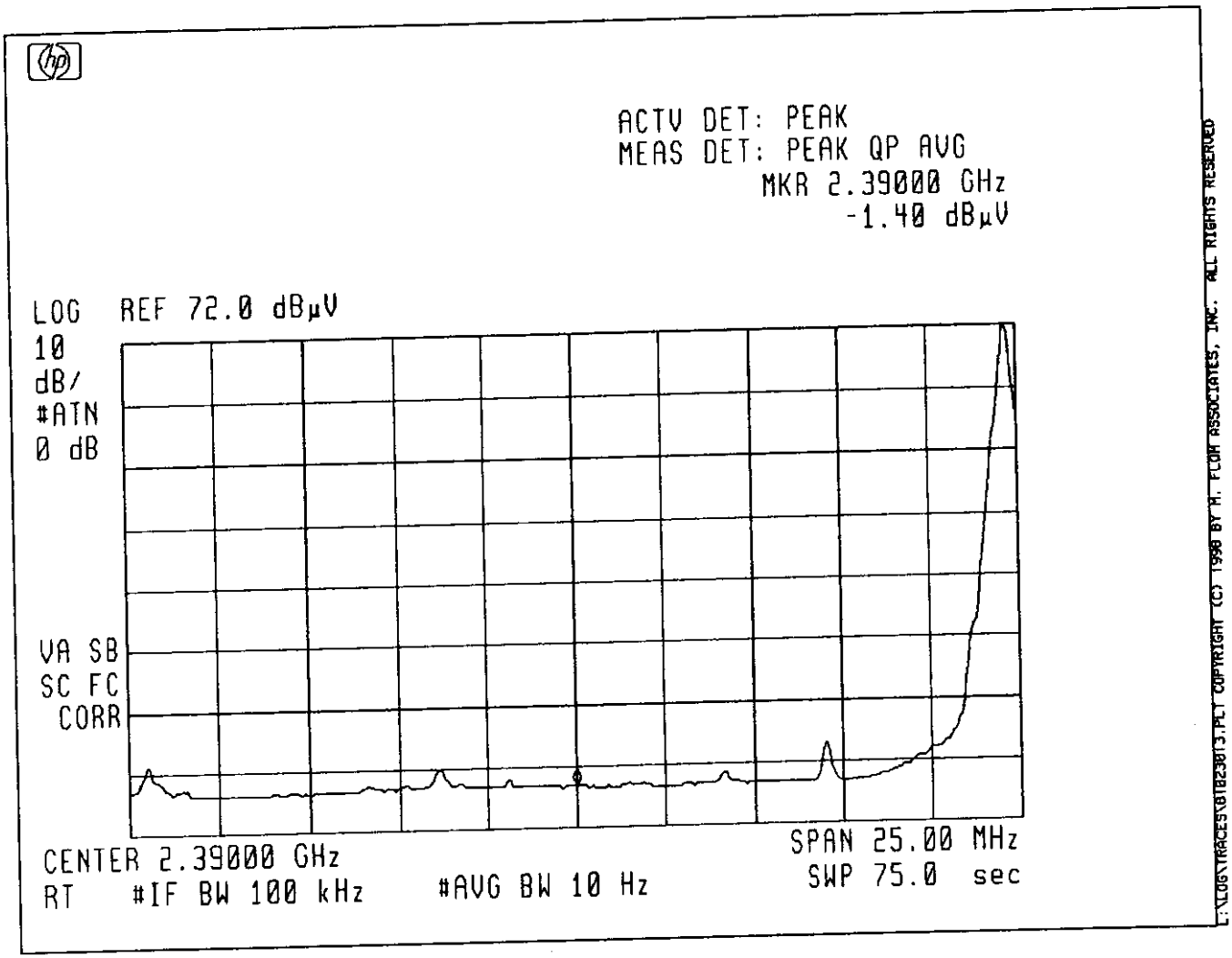
ATTACHED

M. Flom P. Eng.

Morton Flom, P. Eng.

SUPERVISED BY:

EMISSIONS
AIRONET, MI 3100
1998-OCT-23, 12:33, FRI



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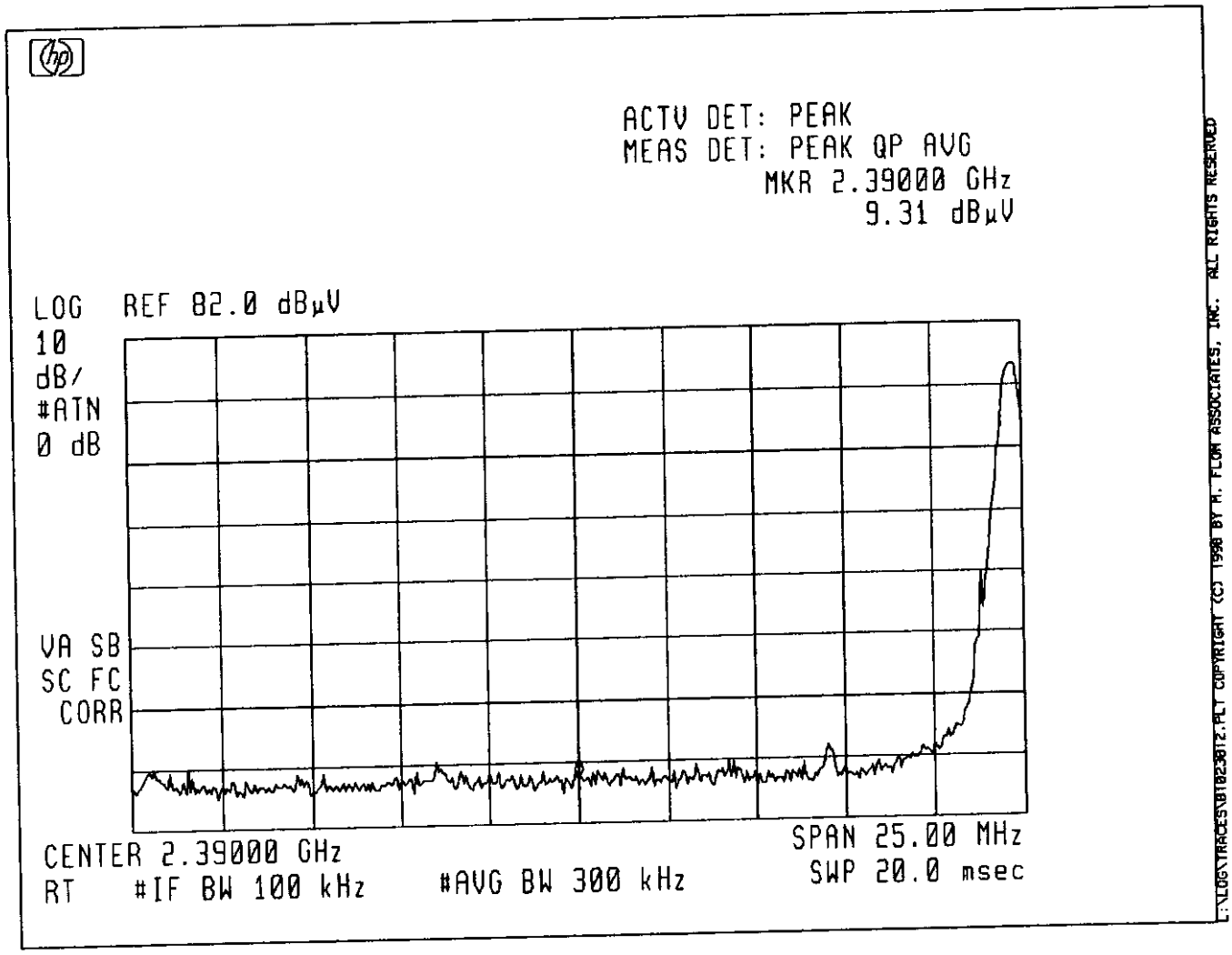

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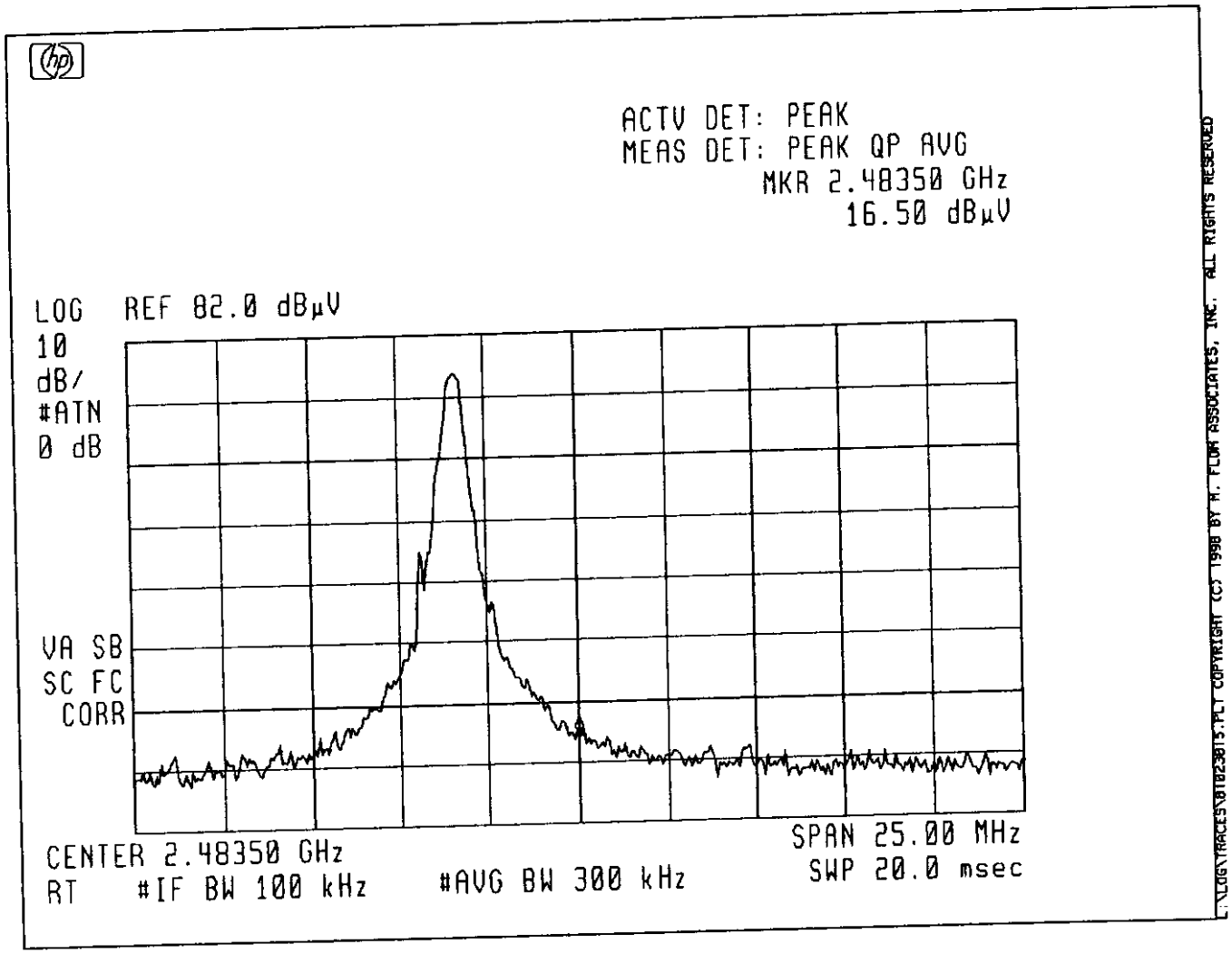

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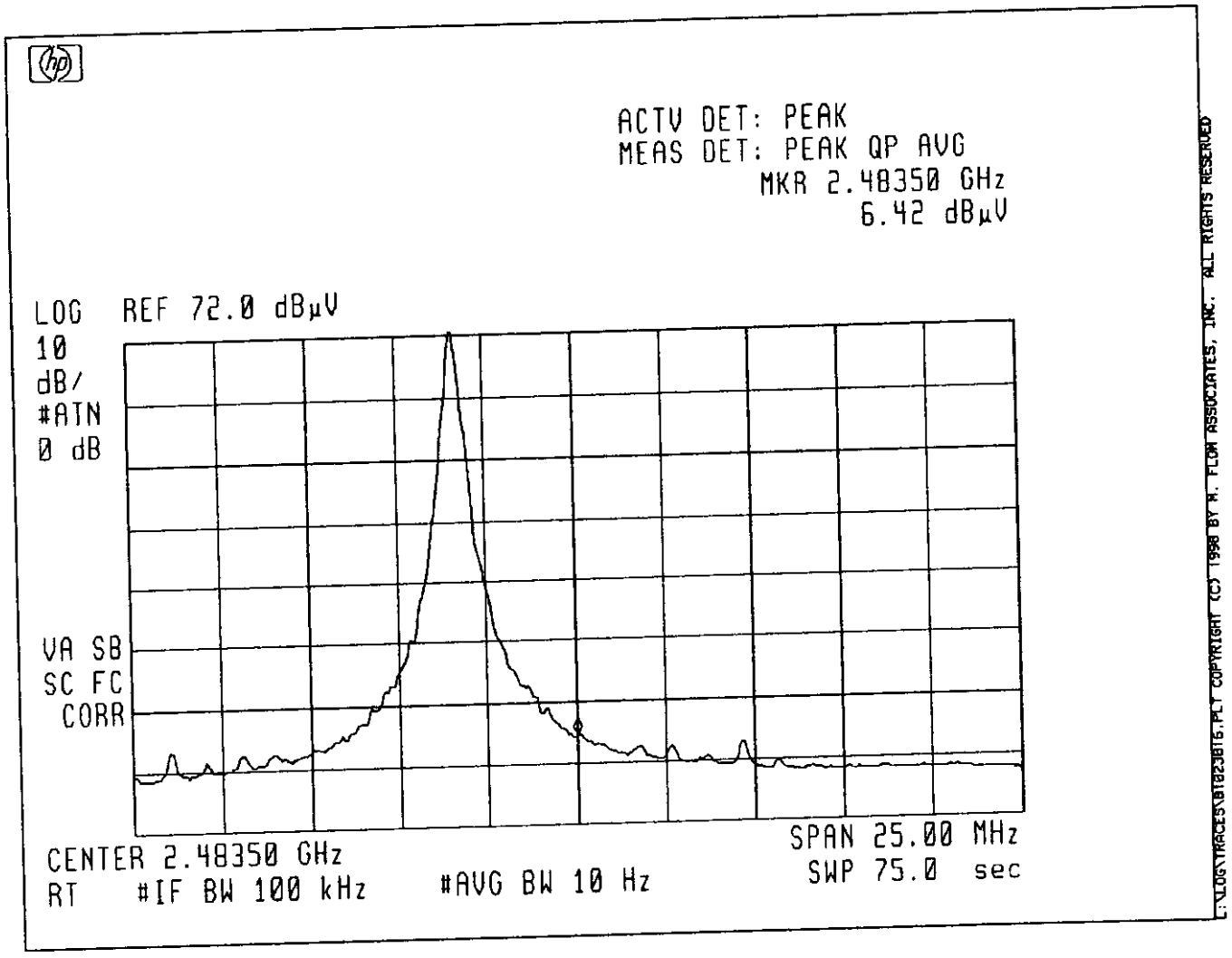

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NAME OF TEST: Allowed Occupied Bandwidth

SPECIFICATION: 47 CFR 15.247(a)(2)

GUIDE: N/A

TEST EQUIPMENT: As per attached page

LIMITS

RULE	TYPE	BANDS (MHz)	LIMIT (kHz)
15.247(a)(1)(i)	F.H.	902-928	20 dB BW ≤ 500
15.247(a)(1)(ii)	F.H.	2400-2483.5, 5725-5850	20 dB BW ≤ 1000
15.247(a)(2)	D.S.	ALL	6 dB BW ≥ 500

MEASUREMENT DATA

20 dB BANDWIDTH, kHz	= 773
1% of 773, kHz	= 7.73
MINIMUM MEASUREMENT BANDWIDTH USED, kHz	= 10
RESULTS	= ATTACHED

NOTE: MEASUREMENT DEVIATION
The band edge measurements were taken in accordance with the Procedures specified in 24.238(b) along with Procedures in 15.247.

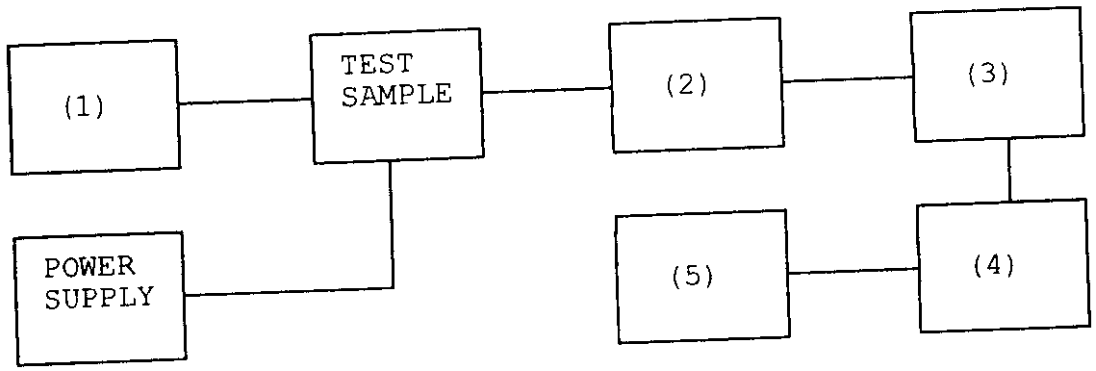
SUPERVISED BY:

Morton Flom, P. Eng.

PAGE NO. 20 of 25.

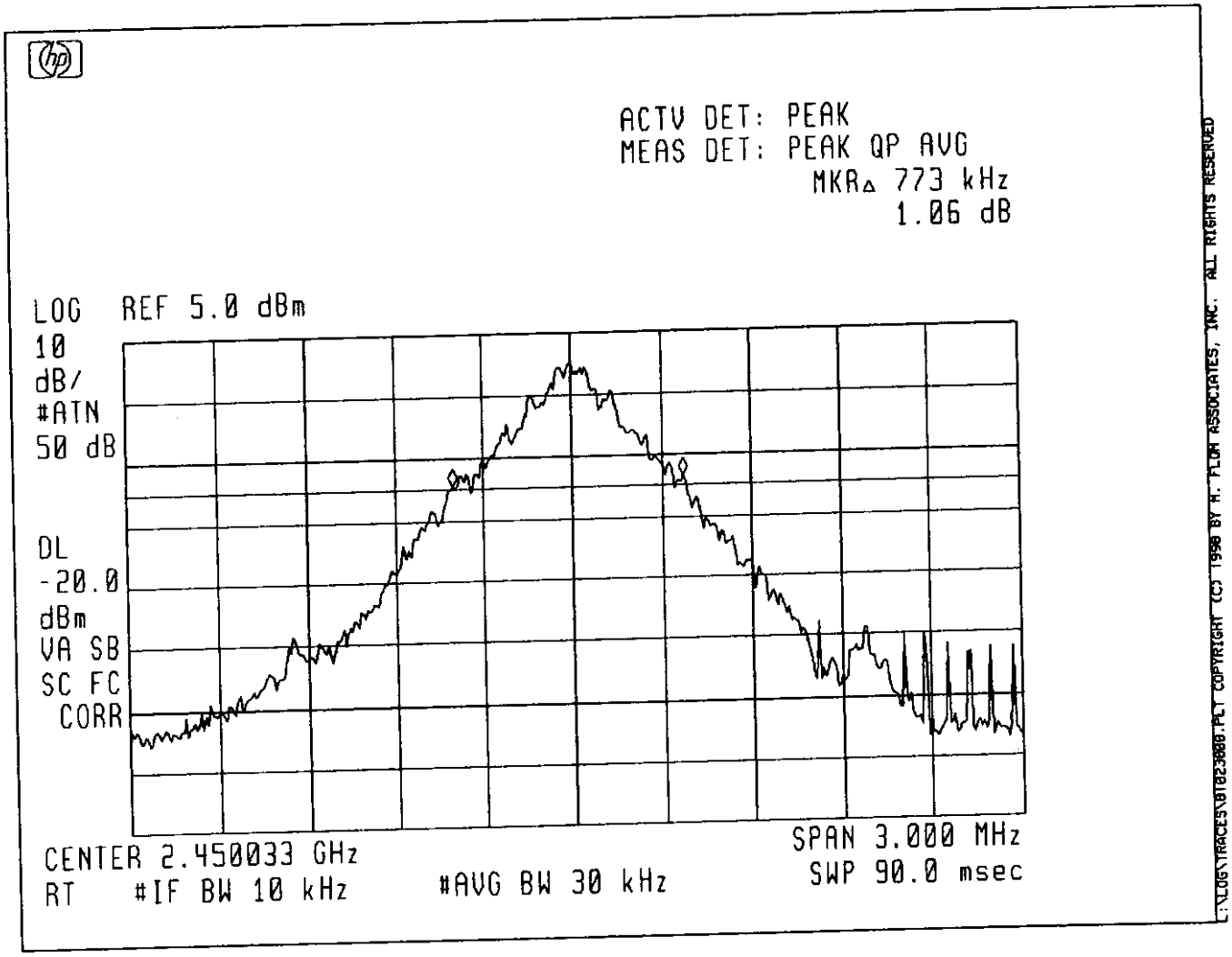
TRANSMITTER SPURIOUS EMISSION

TEST A. OCCUPIED BANDWIDTH (IN-BAND SPURIOUS)
TEST B. OUT-OF-BAND SPURIOUS



	Asset	Description	s/n
		(1) AUDIO OSCILLATOR/GENERATOR	
	i00010	HP 204D	1105A04683
x	i00017	HP 8903A	2216A01753
x	i00012	HP 3312A	1432A11250
		(2) COAXIAL ATTENUATOR	
	i00122	Narda 766-10	7802
	i00123	Narda 766-10	7802A
x	i00069	Bird 8329 (30 dB)	1006
x	i00113	Sierra 661A-3D	1059
		(3) FILTERS; NOTCH, HP, LP, BP	
x	i00126	Eagle TNF-1	100-250
x	i00125	Eagle TNF-1	50-60
x	i00124	Eagle TNF-1	250-850
		(4) SPECTRUM ANALYZER	
x	i00048	HP 8566B	2511A01467
	i00029	HP 8563E	3213A00104
		(5) SCOPE	
	i00058	HP 1741A	2251A09356
	i00030	HP 54502A	2927A00209
	i00071	Tektronix 935	1935-B011343

EMISSIONS
AIRONET, MI 3100
1998-OCT-23, 08:24, FRI



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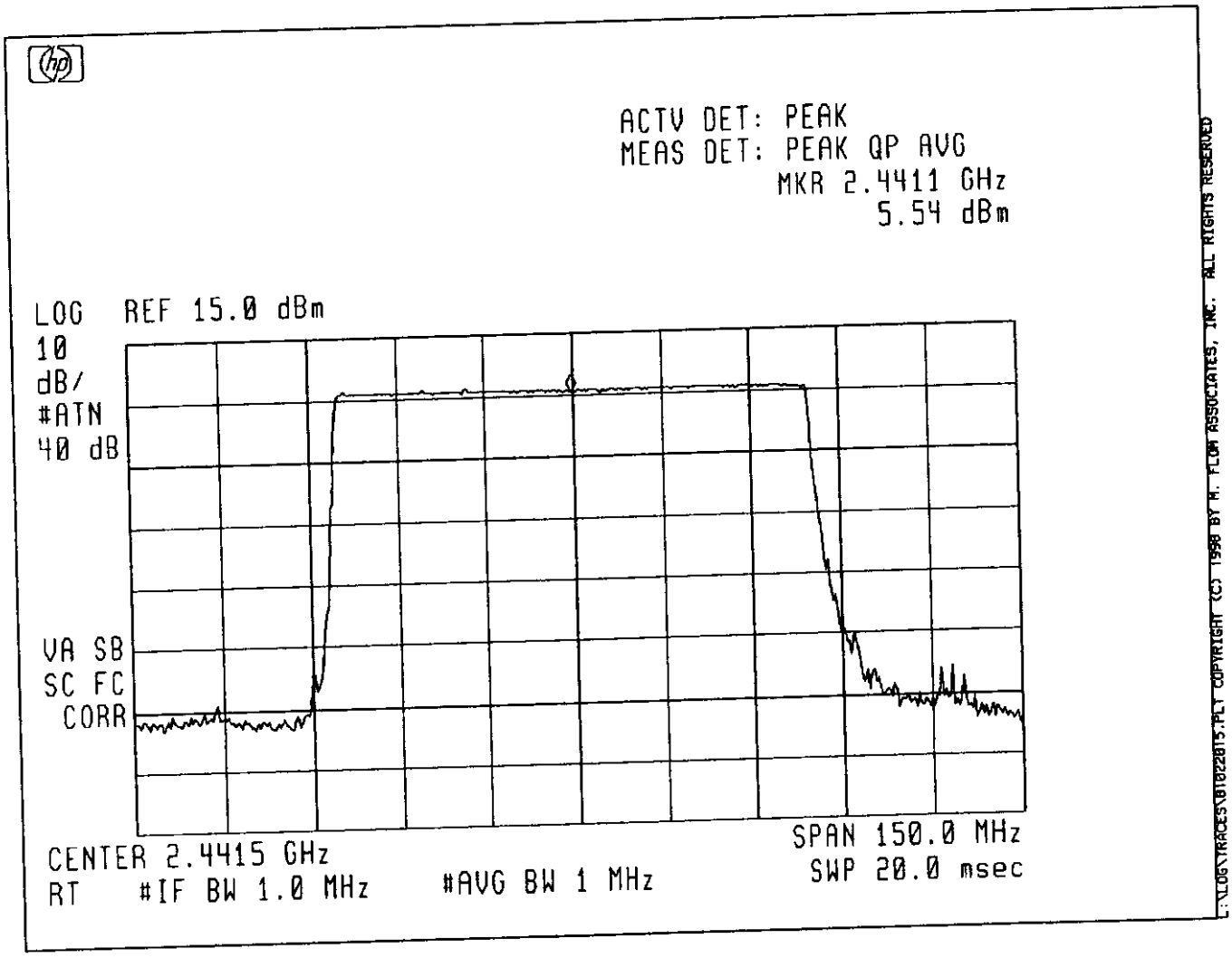


PAGE NO. 23 of 25.

NAME OF TEST: Spread Spectrum Technology
Frequency Hopping Systems

15.247(a)(1) Channel Separation
LIMIT: 25 kHz minimum of 20 dB Bandwidth of the hopping channel, whichever is greater.
RESULTS: See attached plots.

15.247(a)(1) Hopping Sequence Description
LIMIT: Hopping channels must be selected from a psuedorandom ordered list of frequencies.
RESULTS: See Applicant's statement.

15.247(a)(1) Reuse Rate Description
LIMIT: Each frequency must be used equally on the average by each transmitter.
RESULTS: See Applicant's statement.

15.247(a)(1) System Receiver Compatibility and Correlation
LIMIT: Receiver Bandwidths must match the hopping bandwidths and their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signal.
RESULTS: The system was operated and found to stay in sync.

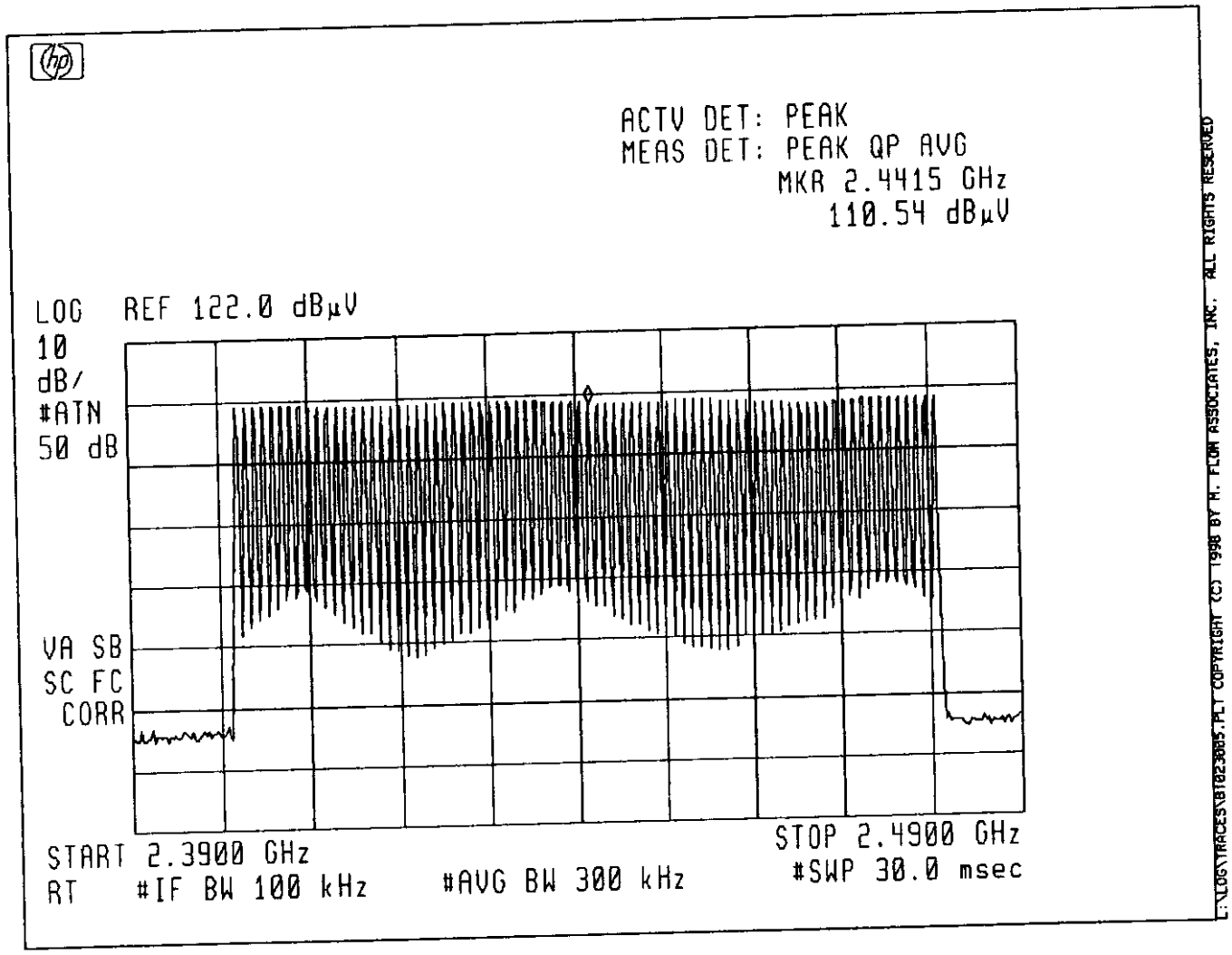
15.247(a)(1)(i)&(ii) Number of Hopping Frequencies
LIMIT: 902-928 MHz band: ≥ 50 (if Channel BW < 250 kHz)
902-928 MHz band: ≥ 25 (if Channel BW ≥ 250 kHz)
2400-2483.5, 5725-5850 MHz band: ≥75
RESULTS: See Applicant's statement.

15.247(a)(1)(i)&(ii) Maximum 20 dB Bandwidth
LIMIT: Channel bandwidth ≤ 500 kHz
RESULTS: Please see results foe "Allowed Occupied Bandwidth".

15.247(a)(1)(i)&(ii) Average Time of Occupancy
LIMIT: 902-928 MHz, ≤ 0.4 seconds in 20 second period.
2400-2483.5, 5725-5850 MHz ≤ 0.4 second in 30second period.
RESULTS: See Applicant's statement.

SUPERVISED BY: Morton Flom, P. Eng.

EMISSIONS
AIRONET, MI 3100
1998-OCT-23, 08:40, FRI



PAGE NO. 25 of 25.

NAME OF TEST: Necessary Bandwidth and Emission Bandwidth

SPECIFICATION: 47 CFR 2.202(g)

MODULATION = 773KF2D

NECESSARY BANDWIDTH:

MEASURED BANDWIDTH (B_N), kHz = 773

SUPERVISED BY:

Morton Flom, P. Eng.

RADIATED MEASUREMENTS
FOR PART 15 TRANSMITTERS W/ INTEGRAL ANTENNAS

Radiated Measurements

RANGE OF MEASUREMENT	SPECIFICATION	RESOLUTION B/W	VIDEO B/A
30 to 1000 MHz	CISPR	≥100 kHz	≥100 kHz
>1000 MHz	FCC, 15.37(b)	1 MHz	≥1 MHz
(if averaging)	FCC, 15.37(b)	1 MHz	10 Hz

Measuring Equipment

a. ANTENNAS:

EMCO 3109	20 - 300 MHz
APREL AALP2001	200 - 1000 MHz
APREL AAB20200	20 - 200 MHz
APREL AAH118	1 - 18 GHz

b. INSTRUMENTS:

HP8566B	Spectrum Analyzer
HP85685A	Preselector, w/ preamp below 2 GHz
HP85650A	Quasi Peak Adapter
HP8449	Preamp, above 2 GHz

All test instrumentation is calibrated every January and every July. In addition, all test instrumentation is calibrated daily, or as required by the manufacturer. A Calibration Agreement is maintained with Hewlett Packard.

Occupied Bandwidth

Occupied Bandwidth is measured as a radiated signal without attenuators and/or filter. RBW, VBW and scan settings as shown were set to produce a meaningful result in accordance with ANSI C63.4, Section 13.1.7.

Part 15.21, Information to User

The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly avoided by the party responsible for compliance could void the user's authority to operate the equipment.

§ 15.205 Restricted Bands of Operation

(a) Except as shown in paragraph (b) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.25
0.495-0.505	16.69475-16.69625	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2655-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-339.4	3600-4400	(2)
13.36-13.41			

Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz. Above 38.6

TESTIMONIAL AND STATEMENT OF CERTIFICATION

THIS IS TO CERTIFY THAT:

1. THAT the application was prepared either by, or under the direct supervision of, the undersigned.

2. THAT the technical data supplied with the application was taken under my direction and supervision.

3. THAT the data was obtained on representative units, randomly selected.

4. THAT, to the best of my knowledge and belief, the facts set forth in the application and accompanying technical data are true and correct.

CERTIFYING ENGINEER:

Morton Flom, P. Eng.

STATEMENT OF QUALIFICATIONS

EDUCATION:

1. B. ENG. in ENGINEERING PHYSICS, 1949, McGill University, Montreal, Canada.

2. Post Graduate Studies, McGill University & Sir George Williams University, Montreal.

PROFESSIONAL AFFILIATIONS:

1. ARIZONA SOCIETY OF PROFESSIONAL ENGINEERS (NSPE), #026 031 821.

2. ORDER OF ENGINEERS (QUEBEC) 1949. #4534.

3. ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOPHYSICISTS & GEOLOGISTS OF ALBERTA #5916.

4. REGISTERED ENGINEERING CONSULTANT - GOVERNMENT OF CANADA, DEPARTMENT OF COMMUNICATIONS. Radio Equipment Approvals.

5. IEEE, Lifetime Member No. 0417204 (member since 1947).

EXPERIENCE:

1. Research/Development/Senior Project Engineer, R.C.A. LIMITED (4 years).

2. Owner/Chief Engineer of Electronics. Design/Manufacturing & Cable TV Companies (10 years).

3. CONSULTING ENGINEER (over 25 years).

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