M. Flom Associates, Inc. - Global Compliance Center
3356 North San Marcos Place, Suite 107, Chandler, Arizona 85225-7176
www.mflom.com general@mflom.com (480) 926-3100, FAX: 926-3598

Date: July 17, 2001

Federal Communications Commission
Via: Electronic Filing

Attention: Authorization & Evaluation Division

Applicant: Galtronics USA Inc.
Equipment: WNG-DAP-103
FCC ID: PO3WNGDAP103
FCC Rules: 15.247

Gentlemen:

On behalf of the Applicant, enclosed please find Application Form 731, Engineering Test Report and all pertinent documentation, the whole for approval of the referenced equipment as shown.

Filing fees are attached.

We trust the same is in order. Should you need any further information, kindly contact the writer who is authorized to act as agent.

Sincerely yours,

Morton Flom, P. Eng.

enclosure(s)
cc: Applicant
MF/cvr

LIST OF EXHIBITS
(FCC **CERTIFICATION** (TRANSMITTERS) - REVISED 9/28/98)

APPLICANT: Galtronics USA Inc.

FCC ID: PO3WNGDAP103

BY APPLICANT:

1. LETTER OF AUTHORIZATION

2. IDENTIFICATION DRAWINGS
   - ___ ID LABEL
   - ___ LOCATION INFO
   - ___ ATTESTATION STATEMENT(S)
   - ___ LOCATION OF COMPLIANCE STATEMENT

3. DOCUMENTATION: 2.1033(b)
   - (3) USER MANUAL(S)
   - (4) OPERATIONAL DESCRIPTION
   - (5) BLOCK DIAGRAM
   - (5) SCHEMATIC DIAGRAM
   - (7) EXTERNAL PHOTOGRAPHS
   - INTERNAL PHOTOGRAPHS
   - PARTS LIST
   - TUNE UP INFO
   - ACTIVE DEVICES

4. DRAFT SPECIFICATION INFORMATION

BY M.F.A. INC.

A. TESTIMONIAL & STATEMENT OF CERTIFICATION

B. STATEMENT OF QUALIFICATIONS

M. Flom Associates, Inc. - Global Compliance Center
3356 North San Marcos Place, Suite 107, Chandler, Arizona 85225-7176
www.mflom.com general@mflom.com (480) 926-3100, FAX: 926-3598

T R A N S M I T T E R C E R T I F I C A T I O N

of

FCC ID: PO3WNGDAP103
MODEL: WNG-DAP-103

to

FEDERAL COMMUNICATIONS COMMISSION

Rule Part(s) 15.247

DATE OF REPORT: July 17, 2001

ON THE BEHALF OF THE APPLICANT:

Galtronics USA Inc.

AT THE REQUEST OF: P.O. 0100189

Galtronics USA Inc.
4645 E. Cotton Center Blvd., Bldg 2
Phoenix, AZ 85040

Attention of: Scott Miller, Antenna Systems Development Mgr.
(602) 659-3011; (602) 453-0259
Email: scottmiller@galtronics.com
and/or Mike Hill, New Products Development Mgr.
(602) 659-3064; (602) 453-0259
Email: mikehill@galtronics.com

SUPERVISED BY: Morton Flom, P. Eng.

THE APPLICANT HAS BEEN CAUTIONED AS TO THE FOLLOWING:

15.21 INFORMATION TO USER.

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

15.27(a) SPECIAL ACCESSORIES.

Equipment marketed to a consumer must be capable of complying with the necessary regulations in the configuration in which the equipment is marketed. Where special accessories, such as shielded cables and/or special connectors are required to enable an unintentional or intentional radiator to comply with the emission limits in this part, the equipment must be marketed with, i.e. shipped and sold with, those special accessories. However, in lieu of shipping or packaging the special accessories with the unintentional or intentional radiator, the responsible party may employ other methods of ensuring that the special accessories are provided to the consumer, without additional charge.

Information detailing any alternative method used to supply the special accessories for a grant of equipment authorization or retained in the verification records, as appropriate. The party responsible for the equipment, as detailed in § 2.909 of this chapter, shall ensure that these special accessories are provided with the equipment. The instruction manual for such devices shall include appropriate instructions on the first page of text concerned with the installation of the device that these special accessories must be used with the device. It is the responsibility of the user to use the needed special accessories supplied with the equipment.

TABLE OF CONTENTS

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

a) TEST REPORT

b) Laboratory: M. Flom Associates, Inc.
(FCC: 31040/SIT) 3356 N. San Marcos Place, Suite 107
(Canada: IC 2044) Chandler, AZ 85225

c) Report Number: d0170018

d) Client: Galtronics USA Inc.
4645 E. Cotton Center Blvd., Bldg 2
Phoenix, AZ 85040

e) Identification: WNG-DAP-103
FCC ID: PO3WNGDAP103
Description: Direct Sequence Spread Spectrum

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

g) Report Date: July 17, 2001
EUT Received: June 25, 2001

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

Sub-part 2.1033

(c)(1): NAME AND ADDRESS OF APPLICANT:

Galtronics USA Inc.
4645 E. Cotton Center Blvd., Bldg 2
Phoenix, AZ 85040

MANUFACTURER:

Applicant

(c)(2): FCC ID: PO3WNGDAP103

MODEL NO: WNG-DAP-103

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

PLEASE SEE ATTACHED EXHIBITS

(c)(4): TYPE OF EMISSION: N/A

(c)(5): FREQUENCY RANGE, MHz: 2480 to 2483.5

(c)(6): POWER RATING, Watts: 0.024385
___ Switchable ___ Variable _x_ N/A

(c)(7): MAXIMUM POWER RATING, Watts: 50 mv/m @ 3m

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 94.

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 = 120 Vac, 60 Hz

(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

M. Flom Associates, Inc. is accredited by the American Association for Laboratory Association (A2LA) as shown in the scope below.

THE AMERICAN
ASSOCIATION
FOR LABORATORY
ACCREDITATION

ACCREDITED LABORATORY

A2LA has accredited

M. FLOM ASSOCIATES, INC.
Chandler, AZ

for technical competence in the field of

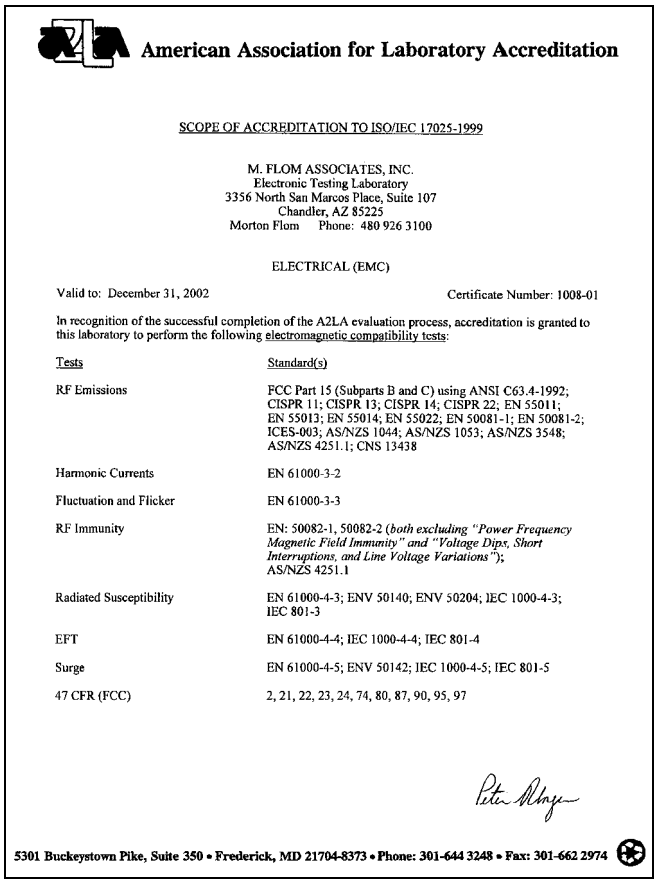
Electrical (EMC) Testing

The accreditation covers the specific tests and types of tests listed on the agreed scope of accreditation. This laboratory meets the requirements of ISO/IEC 17025 - 1999 "General Requirements for the Competence of Testing and Calibration Laboratories" and any additional program requirements in the identified field of testing. Testing and calibration laboratories that comply with this International Standard also operate in accordance with ISO 9001 or ISO 9002.

Presented this 2nd day of March, 2001.

President
For the Accreditation Council
Certificate Number 1008.01
Valid to December 31, 2002

For tests or types of tests to which this accreditation applies, please refer to the laboratory's Electrical (EMC) Scope of Accreditation



American Association for Laboratory Accreditation

SCOPE OF ACCREDITATION TO ISO/IEC 17025-1999

M. FLOM ASSOCIATES, INC.
Electronic Testing Laboratory
3356 North San Marcos Place, Suite 107
Chandler, AZ 85225
Morton Flom Phone: 480 926 3100

ELECTRICAL (EMC)

Valid to: December 31, 2002 Certificate Number: 1008-01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following electromagnetic compatibility tests:

Tests	Standard(s)
RF Emissions	FCC Part 15 (Subparts B and C) using ANSI C63.4-1992; CISPR 11; CISPR 13; CISPR 14; CISPR 22; EN 55011; EN 55013; EN 55014; EN 55022; EN 50081-1; EN 50081-2; ICES-003; AS/NZS 1044; AS/NZS 1053; AS/NZS 3548; AS/NZS 4251.1; CNS 13438
Harmonic Currents	EN 61000-3-2
Fluctuation and Flicker	EN 61000-3-3
RF Immunity	EN: 50082-1, 50082-2 (*both excluding "Power Frequency Magnetic Field Immunity" and "Voltage Dips, Short Interruptions, and Line Voltage Variations"*); AS/NZS 4251.1
Radiated Susceptibility	EN 61000-4-3; ENV 50140; ENV 50204; IEC 1000-4-3; IEC 801-3
EFT	EN 61000-4-4; IEC 1000-4-4; IEC 801-4
Surge	EN 61000-4-5; ENV 50142; IEC 1000-4-5; IEC 801-5
47 CFR (FCC)	2, 21, 22, 23, 24, 74, 80, 87, 90, 95, 97

5301 Buckeystown Pike, Suite 350 • Frederick, MD 21704-8373 • Phone: 301-644 3248 • Fax: 301-662 2974

"This laboratory is accredited by the American Association for Laboratory Accreditation (A2LA) and the results shown in this report have been determined in accordance with the laboratory's terms of accreditation unless stated otherwise in the report."

Should this report contain any data for tests for which we are not accredited, or which have been undertaken by a subcontractor that is not A2LA accredited, such data would not covered by this laboratory's A2LA accreditation.

PAGE NO. 5 of 94.

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 C63.4-1992/2000, 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. 7 of 94.

NAME OF TEST: Maximum Peak Output Power

SPECIFICATION: 47 CFR 15.247(b)

SPEC. LIMIT: ≤ 1 Watt peak (0.25 if <50 Hopping Channels)

TEST EQUIPMENT: Attached

MEASUREMENT DATA

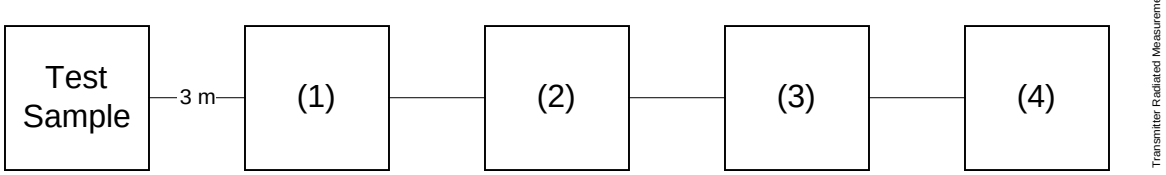
ANTENNA GAIN, dBi = 1.0
PEAK OUTPUT POWER, Watts = 0.0244
WORST CASE FOR ALL CHANNELS

RADIATED:
NAME OF TEST: Out of Band Emissions
g0160087: 2001-Jun-18 Mon 11:10:00
STATE: 2:High Power

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	METER, dBuV	CF, dB	uV/m @ 3m	EIRP, dBm	ERP, Watts
2412.000000	2413.300000	63.79	45.27	283791.9	13.8	0.02438
2437.000000	2438.300000	63.69	45.43	285759.05	13.9	0.02438
2462.000000	2463.300000	62.7	45.6	260015.96	13.1	0.02438

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

TRANSMITTER RADIATED MEASUREMENTS



Transmitter Radiated Measurements

Asset	Description (as applicable)	s/n
(1) TRANSDUCER		
i00091	Emco 3115	001469
i00089	Aprel Log Periodic	001500
i00088	EMCO 3301-B Biconical	2336
(2) HIGH PASS FILTER		
i00	Narda µPAD (In-Band Only)	
i00	Trilithic (Out-Of-Band Only)	
(3) PREAMP		
i00028	HP 8449 (+30 dB)	2749A00121
(4) SPECTRUM ANALYZER		
i00048	HP 8566B	2511A01467
i00057	HP 8557A	1531A00191
i00029	HP 8563E	3213A00104

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TEST SETUP: Radiated Emissions
g0160083: 2001-Jun-28 Thu 14:48:05
STATE: 0:General

TEST SETUP: Radiated Emissions
g0160084: 2001-Jun-28 Thu 14:48:05
STATE: 0:General

PAGE NO. 10 of 94.

NAME OF TEST: Field Strength of Spurious Radiation

1 MB/sec g0160122: 2001-Jun-26 Tue 11:27:00

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	METER, dBuV	CF, dB	uV/m @ 3m	EIRP, dBm	EIRP, dbc
2412.000000	4823.996000	32.83	8.88	121.76	-53.5	≤ -64.4
2437.000000	4874.022666	33	8.98	125.6	-53.2	≤ -64.4
2462.000000	4923.987000	30	9.07	89.85	-56.2	≤ -64.4
2412.000000	7235.998167	20.5	13.05	47.59	-61.7	≤ -64.4
2437.000000	7311.022666	19.83	13.17	44.67	-62.2	≤ -64.4
2462.000000	7385.995000	21.5	13.29	54.89	-60.4	≤ -64.4
2412.000000	9648.004833	25.5	15.71	114.95	-54	≤ -64.4
2437.000000	9748.047666	30	15.79	194.76	-49.4	≤ -64.4
2462.000000	9847.995000	22.67	15.87	84.53	-56.7	≤ -64.4
2412.000000	12059.998500	23	17.43	105.08	-54.8	≤ -64.4
2437.000000	12185.047666	19.33	17.08	66.15	-58.8	≤ -64.4
2462.000000	12309.996000	23	16.73	96.94	-55.5	≤ -64.4
2412.000000	14471.998500	23.33	18.42	122.32	-53.5	≤ -64.4
2437.000000	14622.046333	24.67	18.36	141.74	-52.2	≤ -64.4
2462.000000	14771.996000	22.83	18.31	114.02	-54.1	≤ -64.4
2412.000000	16883.998500	24.17	19.58	153.99	-51.5	≤ -64.4
2437.000000	17059.046666	24.67	19.96	170.41	-50.6	≤ -64.4
2462.000000	17233.996000	22.17	20.43	134.9	-52.6	≤ -64.4

2 MB/sec g0160121:2001-Jun-26 Tue 09:46:00

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	METER, dBuV	CF, dB	uV/m @ 3m	EIRP, dBm	EIRP, dbc
2412.000000	4824.000000	22.17	8.88	35.69	-64.2	≤ -65.4
2437.000000	4873.833333	24.17	8.97	45.39	-62.1	≤ -65.4
2462.000000	4923.833333	22	9.07	35.77	-64.2	≤ -65.4
2412.000000	7236.000000	21.67	13.05	54.45	-60.5	≤ -65.4
2437.000000	7310.833333	21.67	13.17	55.21	-60.4	≤ -65.4
2462.000000	7385.833333	21.67	13.29	55.98	-60.3	≤ -65.4
2412.000000	9648.000000	19.67	15.71	58.75	-59.8	≤ -65.4
2437.000000	9747.833333	22.17	15.79	79.07	-57.3	≤ -65.4
2462.000000	9847.833333	22.33	15.87	81.28	-57	≤ -65.4
2412.000000	12060.000000	19.67	17.43	71.61	-58.1	≤ -65.4
2437.000000	12184.833333	21.83	17.08	88.21	-56.3	≤ -65.4
2462.000000	12309.833333	21.83	16.73	84.72	-56.7	≤ -65.4
2412.000000	14472.000000	23.33	18.42	122.32	-53.5	≤ -65.4
2437.000000	14621.833333	22	18.36	104.23	-54.9	≤ -65.4
2462.000000	14771.833333	23.33	18.31	120.78	-53.6	≤ -65.4
2412.000000	16884.000000	22.5	19.58	127.06	-53.1	≤ -65.4
2437.000000	17058.833333	22.83	19.96	137.88	-52.4	≤ -65.4
2462.000000	17233.833333	23.17	20.43	151.36	-51.6	≤ -65.4

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NAME OF TEST: Field Strength of Spurious Radiation

5.5 MB/sec g0160108: 2001-Jun-25 Mon 13:10:00

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	METER, dBuV	CF, dB	uV/m @ 3m	EIRP, dBm	EIRP, dbc
2412.000000	4824.000000	21.17	8.88	31.81	-65.2	≤-65.4
2437.000000	4874.000000	21	8.98	31.55	-65.2	≤-65.4
2462.000000	4924.000000	20.83	9.07	31.26	-65.3	≤-65.4
2412.000000	7236.000000	20.33	13.05	46.67	-61.8	≤-65.4
2437.000000	7311.000000	20.17	13.17	46.45	-61.9	≤-65.4
2462.000000	7386.000000	20.5	13.29	48.92	-61.4	≤-65.4
2412.000000	9648.000000	21.83	15.71	75.34	-57.7	≤-65.4
2437.000000	9748.000000	22.17	15.79	79.07	-57.3	≤-65.4
2462.000000	9848.000000	20.5	15.87	65.84	-58.9	≤-65.4
2412.000000	12060.000000	22	17.43	93.65	-55.8	≤-65.4
2437.000000	12185.000000	19.83	17.08	70.06	-58.3	≤-65.4
2462.000000	12310.000000	21.67	16.73	83.18	-56.8	≤-65.4
2412.000000	14472.000000	22.33	18.42	109.02	-54.5	≤-65.4
2437.000000	14622.000000	23.5	18.36	123.88	-53.4	≤-65.4
2462.000000	14772.000000	22.67	18.31	111.94	-54.2	≤-65.4
2412.000000	16884.000000	21.83	19.58	117.63	-53.8	≤-65.4
2437.000000	17059.000000	22.83	19.96	137.88	-52.4	≤-65.4
2462.000000	17234.000000	23	20.43	148.42	-51.8	≤-65.4

11 MB/sec g0160101: 2001-Jun-19 Tue 08:56:00

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	METER, dBuV	CF, dB	uV/m @ 3m	EIRP, dBm	EIRP, dbc
2412.000000	4824.000000	22.67	8.88	37.8	-63.7	≤-66.2
2437.000000	4874.000000	22.67	8.98	38.24	-63.6	≤-66.2
2462.000000	4924.000000	22	9.07	35.77	-64.2	≤-66.2
2412.000000	7236.000000	21.5	13.05	53.39	-60.7	≤-66.2
2437.000000	7311.000000	21.33	13.17	53.09	-60.7	≤-66.2
2462.000000	7386.000000	20.67	13.29	49.89	-61.3	≤-66.2
2412.000000	9648.000000	22.5	15.71	81.38	-57	≤-66.2
2437.000000	9748.000000	22.33	15.79	80.54	-57.1	≤-66.2
2462.000000	9848.000000	21.5	15.87	73.88	-57.9	≤-66.2
2412.000000	12060.000000	21.83	17.43	91.83	-56	≤-66.2
2437.000000	12185.000000	19.5	17.08	67.45	-58.6	≤-66.2
2462.000000	12310.000000	21.33	16.73	79.98	-57.2	≤-66.2
2412.000000	14472.000000	22.83	18.42	115.48	-54	≤-66.2
2437.000000	14622.000000	23.67	18.36	126.33	-53.2	≤-66.2
2462.000000	14772.000000	22.67	18.31	111.94	-54.2	≤-66.2
2412.000000	16884.000000	21.83	19.58	117.63	-53.8	≤-66.2
2437.000000	17059.000000	22.83	19.96	137.88	-52.4	≤-66.2
2462.000000	17234.000000	22.17	20.43	134.9	-52.6	≤-66.2

PAGE NO. 12 of 94.

NAME OF TEST: Out of Band Emissions

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

SPEC. LIMIT: See Below

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. 13 of 94.

NAME OF TEST: Out of Band Emissions

g0160141:2001-Jun-27 Wed 10:14:00
1 MB/sec Upper Bandedge

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	METER, dBuV	CF, dB	uV/m @ 3m	EIRP, dBm	*PEAK AVG
2462.000000	2483.500000	8.18	45.72	495.45	-41.3	AVG
2462.000000	2483.500000	-1.5	45.72	162.55	-51	PEAK
2462.000000	2485.400000	-1.41	45.73	164.44	-50.9	AVG
2462.000000	2485.500000	10.69	45.73	662.22	-38.8	PEAK
2462.000000	2487.500000	-1.51	45.75	162.93	-51	AVG
2462.000000	2487.600000	9.91	45.75	606.74	-39.6	PEAK
2462.000000	2489.400000	-1.48	45.75	163.49	-51	AVG
2462.000000	2489.700000	7.72	45.76	472.06	-41.7	PEAK
2462.000000	2491.500000	-1.58	45.77	161.99	-51	AVG
2462.000000	2491.600000	9.29	45.77	566.24	-40.2	PEAK
2462.000000	2493.500000	-1.48	45.79	164.25	-50.9	AVG
2462.000000	2493.800000	8.96	45.79	546.39	-40.5	PEAK
2462.000000	2495.400000	7.49	45.79	461.32	-41.9	PEAK
2462.000000	2495.500000	-1.58	45.79	162.37	-51	AVG
2462.000000	2497.400000	-1.39	45.81	166.34	-50.8	AVG
2462.000000	2497.900000	7.63	45.81	469.89	-41.8	PEAK
2462.000000	2499.400000	8.82	45.81	538.89	-40.6	PEAK
2462.000000	2499.500000	-1.48	45.82	164.82	-50.9	AVG
2462.000000	2501.600000	7.25	45.83	450.82	-42.1	PEAK
2462.000000	2501.700000	-1.51	45.83	164.44	-50.9	AVG

*PEAK AND AVERAGE VALUES

g0160143:2001-Jun-27 Wed 10:56:00
1 MB/sec Lower Bandedge

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	METER, dBuV	CF, dB	uV/m @ 3m	EIRP, dBm	*PEAK AVG
2412.000000	2372.000000	11.17	44.89	635.33	-39.2	PEAK
2412.000000	2372.000000	-0.04	44.89	174.78	-50.4	AVG
2412.000000	2374.000000	-0.48	44.91	166.53	-50.8	AVG
2412.000000	2374.000000	10.48	44.91	588.17	-39.8	PEAK
2412.000000	2375.400000	0.21	44.92	180.51	-50.1	AVG
2412.000000	2376.000000	12.57	44.93	749.89	-37.7	PEAK
2412.000000	2378.000000	-1.42	44.95	150.14	-51.7	AVG
2412.000000	2378.000000	7.95	44.95	441.57	-42.3	PEAK
2412.000000	2379.900000	-1.49	44.98	149.45	-51.7	AVG
2412.000000	2380.100000	9.57	44.98	533.95	-40.7	PEAK
2412.000000	2382.000000	2.48	44.99	236.32	-47.8	AVG
2412.000000	2382.000000	13.13	44.99	805.38	-37.1	PEAK
2412.000000	2383.900000	15	45.01	1001.15	-35.2	PEAK
2412.000000	2383.900000	5.93	45.01	352.37	-44.3	AVG
2412.000000	2386.000000	16.28	45.04	1164.13	-33.9	PEAK
2412.000000	2386.300000	7.39	45.04	418.31	-42.8	AVG
2412.000000	2387.400000	15.17	45.05	1025.65	-35	PEAK
2412.000000	2388.100000	4.32	45.05	294.1	-45.9	AVG
2412.000000	2390.000000	-0.61	45.08	167.3	-50.8	AVG
2412.000000	2390.000000	11.06	45.08	641.21	-39.1	PEAK

*PEAK AND AVERAGE VALUES

PAGE NO. 14 of 94.

NAME OF TEST: Out of Band Emissions

g0160138:2001-Jun-26 Tue 15:53:00
2 MB/sec Upper Bandedge

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	METER, dBuV	CF, dB	uV/m @ 3m	EIRP, dBm	*PEAK AVG
2462.000000	2483.500000	8.01	45.72	485.85	-41.5	PEAK
2462.000000	2483.500000	-1.4	45.72	164.44	-50.9	AVG
2462.000000	2485.300000	8.52	45.73	515.82	-41	PEAK
2462.000000	2485.400000	-1.55	45.73	161.81	-51	AVG
2462.000000	2487.500000	8.03	45.75	488.65	-41.4	PEAK
2462.000000	2487.500000	-1.55	45.75	162.18	-51	AVG
2462.000000	2489.400000	-1.55	45.75	162.18	-51	AVG
2462.000000	2489.900000	9.38	45.76	571.48	-40.1	PEAK
2462.000000	2491.500000	8.77	45.77	533.33	-40.7	PEAK
2462.000000	2491.500000	-1.39	45.77	165.58	-50.8	AVG
2462.000000	2492.600000	10.04	45.77	617.31	-39.4	PEAK
2462.000000	2493.100000	-1.53	45.78	163.12	-51	AVG
2462.000000	2495.500000	8.1	45.79	494.88	-41.3	PEAK
2462.000000	2495.500000	-1.58	45.79	162.37	-51	AVG
2462.000000	2497.400000	9.36	45.81	573.46	-40.1	PEAK
2462.000000	2497.700000	-1.39	45.81	166.34	-50.8	AVG
2462.000000	2499.500000	8.59	45.82	525.41	-40.8	PEAK
2462.000000	2499.500000	-1.46	45.82	165.2	-50.9	AVG
2462.000000	2501.500000	-1.37	45.83	167.11	-50.8	AVG
2462.000000	2501.700000	8.33	45.83	510.5	-41.1	PEAK

*PEAK AND AVERAGE VALUES

g0160123:2001-Jun-26 Tue 14:15:00
2 MB/sec Lower Bandedge

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	METER, dBuV	CF, dB	uV/m @ 3m	EIRP, dBm	*PEAK AVG
2412.000000	2371.700000	5.03	41.04	201.14	-49.2	AVG
2412.000000	2372.100000	16.25	41.04	731.98	-37.9	PEAK
2412.000000	2374.000000	13.99	41.06	565.59	-40.2	AVG
2412.000000	2374.000000	4.62	41.06	192.31	-49.5	PEAK
2412.000000	2375.900000	4.97	41.06	200.22	-49.2	AVG
2412.000000	2376.100000	15.5	41.06	672.98	-38.7	PEAK
2412.000000	2378.000000	13.83	41.08	556.54	-40.3	AVG
2412.000000	2378.000000	4.57	41.08	191.65	-49.6	PEAK
2412.000000	2379.800000	4.58	41.1	192.31	-49.5	AVG
2412.000000	2380.100000	14.88	41.1	629.51	-39.2	PEAK
2412.000000	2382.000000	15.68	41.1	690.24	-38.4	AVG
2412.000000	2382.000000	6.05	41.1	227.77	-48.1	PEAK
2412.000000	2383.700000	17.43	41.12	846.25	-36.7	PEAK
2412.000000	2383.800000	7.4	41.12	266.69	-46.7	AVG
2412.000000	2386.000000	17.44	41.14	849.18	-36.6	AVG
2412.000000	2386.000000	8.12	41.14	290.4	-46	PEAK
2412.000000	2386.900000	8.11	41.14	290.07	-46	AVG
2412.000000	2387.000000	18.63	41.14	973.87	-35.5	PEAK
2412.000000	2390.000000	17	41.16	809.1	-37.1	AVG
2412.000000	2390.000000	4.97	41.16	202.53	-49.1	PEAK

*PEAK AND AVERAGE VALUES

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NAME OF TEST: Out of Band Emissions

g0160120: 2001-Jun-25 Mon 16:19:00
5.5 MB/sec Upper Bandedge

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	METER dBuV	CF dB	uV/m @ 3m	EIRP dBm	*PEAK AVG
2462.000000	2483.500000	2.22	45.72	249.46	-47.3	AVG
2462.000000	2483.500000	11.93	45.72	762.96	-37.6	PEAK
2462.000000	2485.200000	15.5	45.73	1152.13	-34	PEAK
2462.000000	2485.300000	4.95	45.73	341.98	-44.5	AVG
2462.000000	2487.500000	1.73	45.75	236.59	-47.7	AVG
2462.000000	2487.500000	10.42	45.75	643.43	-39.1	PEAK
2462.000000	2489.400000	11.43	45.75	722.77	-38	PEAK
2462.000000	2490.300000	0.97	45.76	217.02	-48.5	AVG
2462.000000	2491.500000	0.18	45.77	198.38	-49.3	AVG
2462.000000	2491.500000	10.21	45.77	629.51	-39.2	PEAK
2462.000000	2493.500000	-0.69	45.79	179.89	-50.1	AVG
2462.000000	2493.700000	9.4	45.79	574.78	-40	PEAK
2462.000000	2495.500000	-0.71	45.79	179.47	-50.1	AVG
2462.000000	2495.500000	7.95	45.79	486.41	-41.5	PEAK
2462.000000	2497.400000	9.38	45.81	574.78	-40	PEAK
2462.000000	2497.500000	-0.83	45.81	177.42	-50.2	AVG
2462.000000	2499.500000	-0.99	45.82	174.38	-50.4	AVG
2462.000000	2499.500000	9.68	45.82	595.66	-39.7	PEAK
2462.000000	2501.700000	8.82	45.83	540.13	-40.6	PEAK
2462.000000	2501.700000	-1.01	45.83	174.18	-50.4	AVG

*PEAK AND AVERAGE VALUES

g0160109: 2001-Jun-25 Mon 15:08:00
5.5 MB/sec Lower Bandedge

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	METER dBuV	CF dB	uV/m @ 3m	EIRP dBm	*PEAK AVG
2412.000000	2372.000000	-0.47	41.04	106.78	-54.7	AVG
2412.000000	2372.300000	10.45	41.04	375.4	-43.7	PEAK
2412.000000	2374.000000	-0.36	41.06	108.39	-54.5	AVG
2412.000000	2374.000000	8.07	41.06	286.09	-46.1	PEAK
2412.000000	2375.700000	-0.28	41.06	109.4	-54.4	AVG
2412.000000	2375.900000	10.58	41.06	381.94	-43.6	PEAK
2412.000000	2377.900000	11.8	41.08	440.55	-42.3	PEAK
2412.000000	2378.000000	0.08	41.08	114.29	-54.1	AVG
2412.000000	2380.000000	-0.44	41.1	107.89	-54.6	AVG
2412.000000	2380.400000	11.53	41.1	428.06	-42.6	PEAK
2412.000000	2382.000000	0.26	41.1	116.95	-53.9	AVG
2412.000000	2382.000000	10.07	41.1	361.83	-44.1	PEAK
2412.000000	2383.900000	1.9	41.12	141.58	-52.2	AVG
2412.000000	2384.300000	12.91	41.12	502.92	-41.2	PEAK
2412.000000	2386.000000	3.22	41.14	165.2	-50.9	AVG
2412.000000	2386.000000	12.71	41.14	492.61	-41.4	PEAK
2412.000000	2388.300000	7.34	41.14	265.46	-46.7	AVG
2412.000000	2388.500000	16.93	41.15	801.68	-37.1	PEAK
2412.000000	2390.000000	6.62	41.16	244.91	-47.4	AVG
2412.000000	2390.000000	16.96	41.16	805.38	-37.1	PEAK

*PEAK AND AVERAGE VALUES

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NAME OF TEST: Out of Band Emissions

g0160091: 2001-Jun-18 Mon 12:37:00
11 MB/sec Upper Bandedge

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	METER dBuV	CF dB	uV/m @ 3m	EIRP dBm	*PEAK AVG
2462.000000	2483.500000	2.15	45.72	247.46	-47.4	AVG
2462.000000	2483.500000	10.56	45.72	651.63	-38.9	PEAK
2462.000000	2485.500000	12.08	45.73	777.14	-37.4	PEAK
2462.000000	2485.800000	4.42	45.73	321.74	-45.1	AVG
2462.000000	2487.500000	5.25	45.75	354.81	-44.2	AVG
2462.000000	2487.500000	11.68	45.75	743.88	-37.8	PEAK
2462.000000	2488.900000	14.71	45.75	1054.39	-34.8	PEAK
2462.000000	2489.000000	3.8	45.75	300.26	-45.7	AVG
2462.000000	2491.500000	0.8	45.77	213.06	-48.7	AVG
2462.000000	2491.500000	8.53	45.77	518.8	-40.9	PEAK
2462.000000	2493.600000	-3.75	45.79	126.47	-53.2	AVG
2462.000000	2493.700000	4.93	45.79	343.56	-44.5	PEAK
2462.000000	2495.500000	-5.43	45.79	104.23	-54.9	AVG
2462.000000	2495.500000	2.54	45.79	260.92	-46.9	PEAK
2462.000000	2497.600000	-4.71	45.81	113.5	-54.1	AVG
2462.000000	2497.800000	3.55	45.81	293.76	-45.9	PEAK
2462.000000	2499.400000	4.56	45.81	329.99	-44.9	PEAK
2462.000000	2499.500000	-5.29	45.82	106.29	-54.7	AVG
2462.000000	2500.800000	4.4	45.83	324.71	-45	PEAK
2462.000000	2501.100000	-5.18	45.83	107.77	-54.6	AVG

*PEAK AND AVERAGE VALUES

g0160092: 2001-Jun-18 Mon 13:29:00
11 MB/sec Lower Bandedge

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	METER dBuV	CF dB	uV/m @ 3m	EIRP dBm	*PEAK AVG
2412.000000	2372.000000	-4.44	44.89	105.32	-54.8	AVG
2412.000000	2372.300000	4.76	44.89	303.74	-45.6	PEAK
2412.000000	2374.000000	3.21	44.91	254.68	-47.1	PEAK
2412.000000	2374.000000	-4.24	44.91	108.02	-54.6	AVG
2412.000000	2376.000000	5.14	44.93	318.79	-45.2	PEAK
2412.000000	2376.200000	-3.69	44.93	115.35	-54	AVG
2412.000000	2378.000000	2.38	44.95	232.54	-47.9	PEAK
2412.000000	2378.000000	-5.01	44.95	99.31	-55.3	AVG
2412.000000	2380.300000	-2.74	44.98	129.42	-53	AVG
2412.000000	2380.300000	6.59	44.98	378.88	-43.7	PEAK
2412.000000	2382.000000	9.84	44.99	551.44	-40.4	PEAK
2412.000000	2382.000000	0.3	44.99	183.87	-49.9	AVG
2412.000000	2384.600000	5.4	45.02	331.89	-44.8	AVG
2412.000000	2384.600000	16.2	45.02	1150.8	-34	PEAK
2412.000000	2386.000000	12.87	45.04	786.14	-37.3	PEAK
2412.000000	2386.000000	5.31	45.04	329.23	-44.9	AVG
2412.000000	2387.700000	14.38	45.05	936.48	-35.8	PEAK
2412.000000	2387.900000	6.52	45.05	378.88	-43.7	AVG
2412.000000	2390.000000	12.75	45.08	778.93	-37.4	PEAK
2412.000000	2390.000000	3.02	45.08	254.1	-47.1	AVG

*PEAK AND AVERAGE VALUES

PAGE NO. 17 of 94.

NAME OF TEST: Restricted Bands of Operation

SPECIFICATION: 47 CFR 15.205

TEST EQUIPMENT: As per attached page

MEASUREMENT PROCEDURE

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

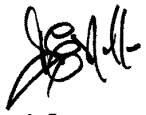
Note:

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.



PERFORMED BY: Doug Noble, B.A.S. E.E.T.

PAGE NO. 18 of 94.

NAME OF TEST: Emissions At Band Edges

SPECIFICATION: 47 CFR

TEST EQUIPMENT: As for "Out of Band Emissions"

MEASUREMENT RESULTS

ATTACHED

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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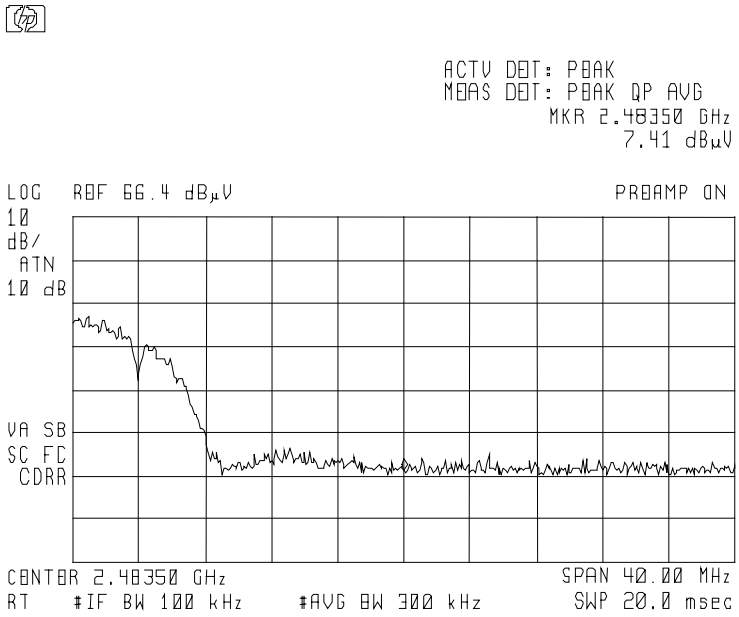
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0160157: 2001-Jun-28 Thu 14:34:00
STATE: 2:High Power



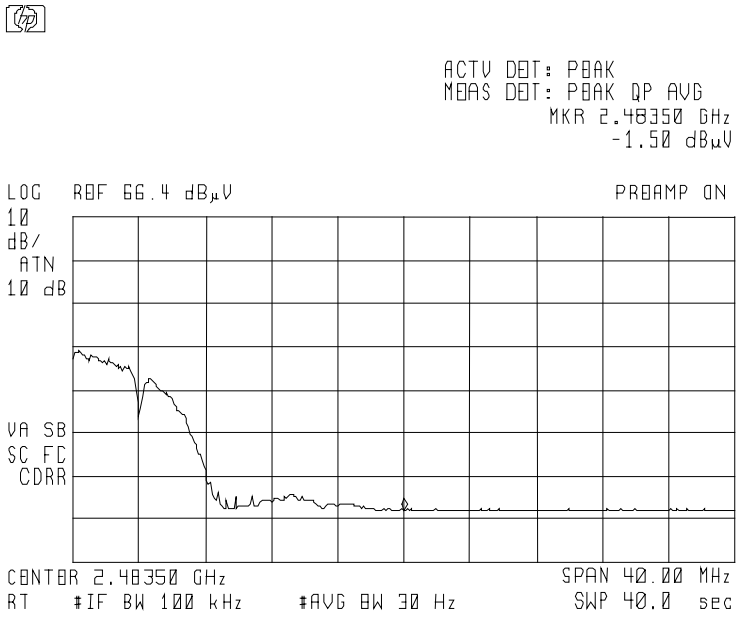
POWER: HIGH
MODULATION: 1 MB/SEC PSUDEO RANDOM DATA
UPPER BANDEDGE CH.
2462/PEAK

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

PAGE NO. 20 of 94.

NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0160158: 2001-Jun-28 Thu 14:36:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 1 MB/SEC PSUDEO RANDOM DATA
UPPER BANDEDGE CH. 2462/AVG

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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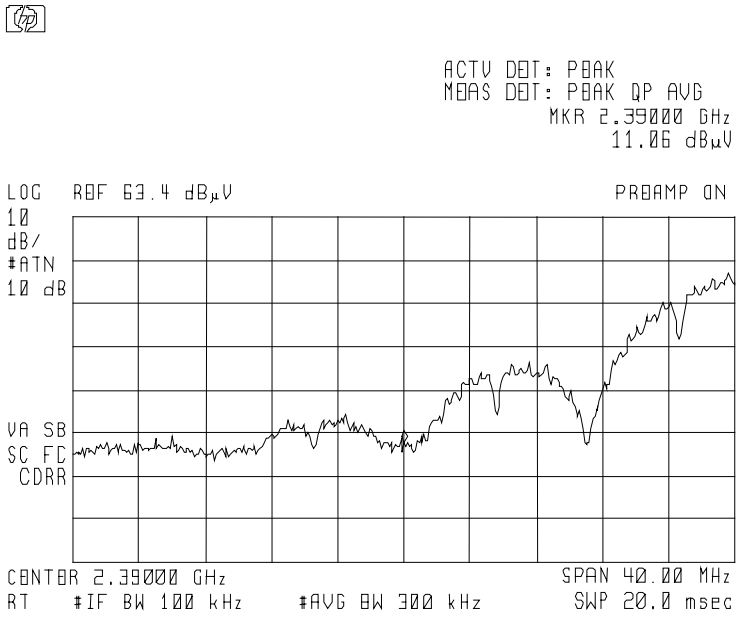
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0160144: 2001-Jun-27 Wed 11:25:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 1 MB/SEC PSUDEO RANDOM DATA
LOWER BANDEDGE CH.
2412/PEAK

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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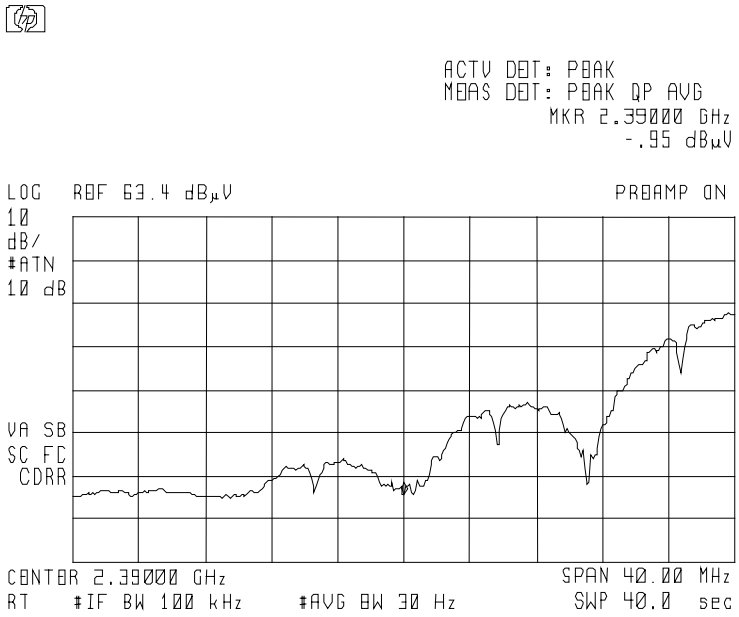
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0160145: 2001-Jun-27 Wed 11:27:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 1 MB/SEC PSUDEO RANDOM DATA
LOWER BANDEDGE CH. 2412/AVG

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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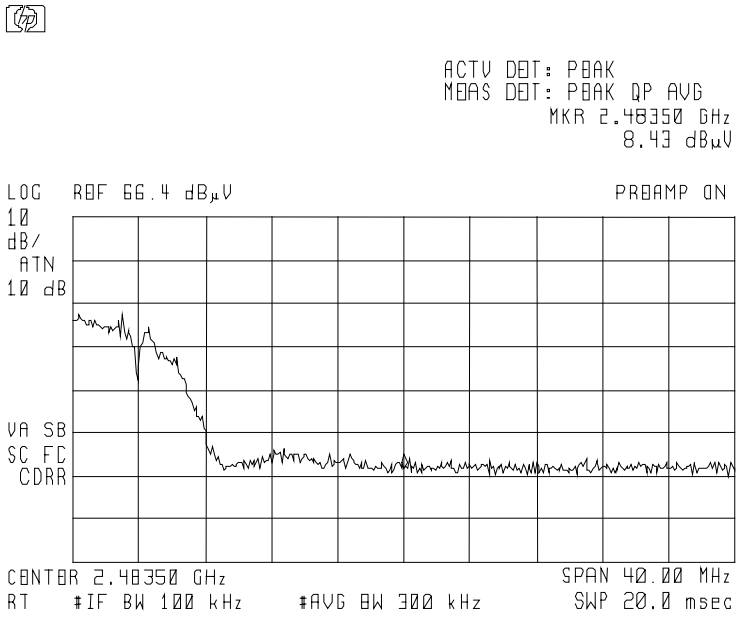
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0160156: 2001-Jun-28 Thu 14:33:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 2 MB/SEC PSUDEO RANDOM DATA
UPPER BANDEDGE CH.
2462/PEAK

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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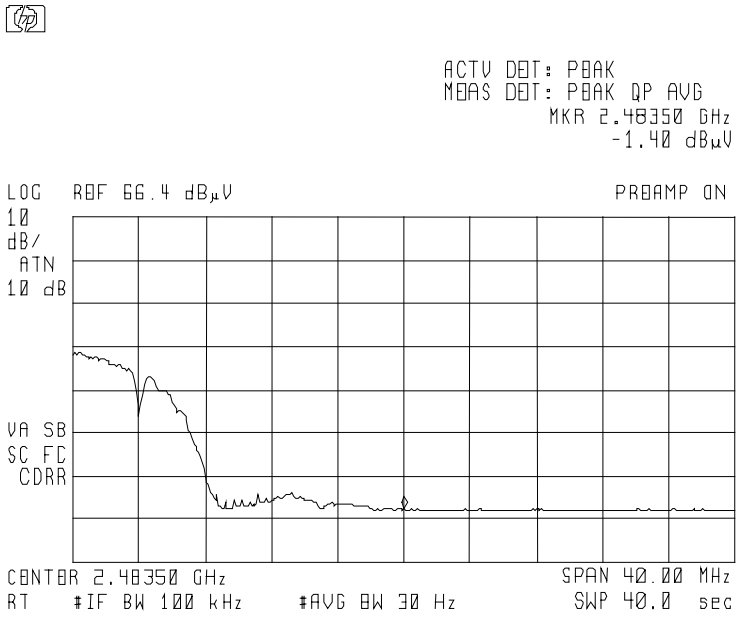
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0160155: 2001-Jun-28 Thu 14:33:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 2 MB/SEC PSUDEO RANDOM DATA
UPPER BANDEDGE CH. 2462/AVG

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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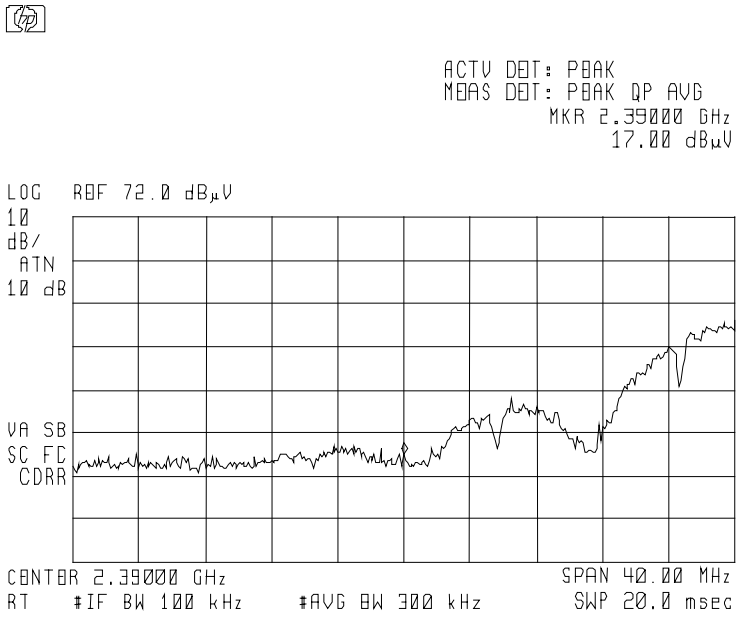
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0160124: 2001-Jun-26 Tue 14:50:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 2 MB/SEC PSUDEO RANDOM DATA
LOWER BANDEDGE CH 2412/PEAK

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0160125: 2001-Jun-26 Tue 14:51:00
STATE: 2:High Power

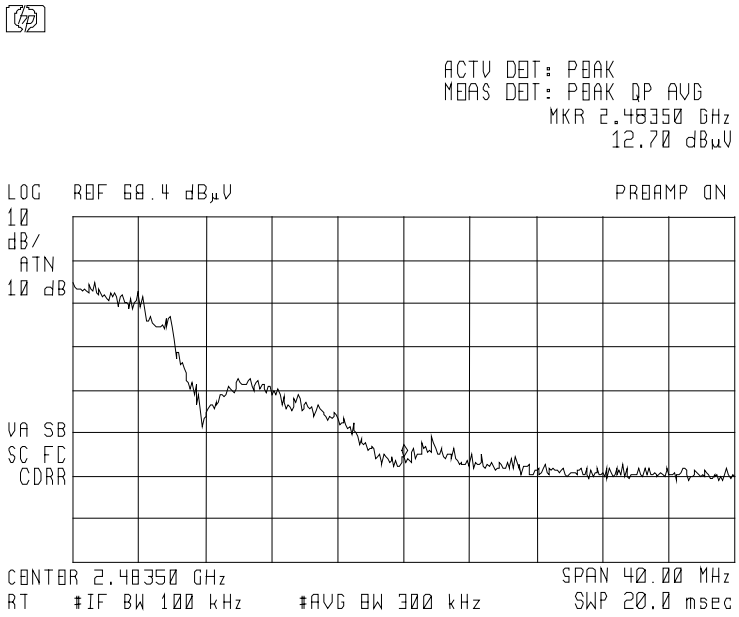
POWER: HIGH
MODULATION: 2 MB/SEC PSUDEO RANDOM DATA
LOWER BANDEDGE CH 2412/AVG

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

PAGE NO. 27 of 94.

NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0160118: 2001-Jun-25 Mon 16:16:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 5.5 MB/SEC PSUDEO RANDOM DATA
UPPER BANDEDGE CH. 2462/PEAK

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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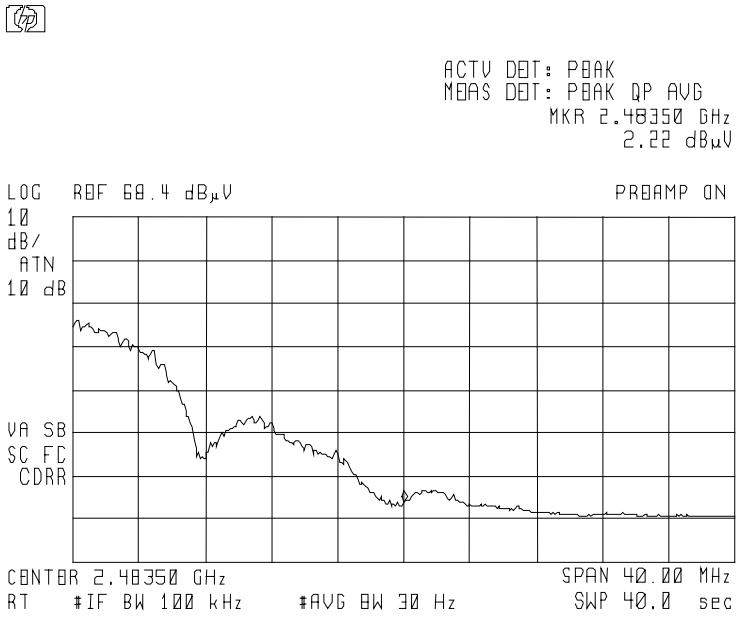
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0160119: 2001-Jun-25 Mon 16:17:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 5.5 MB/SEC PSUDEO RANDOM DATA
UPPER BANDEDGE CH. 2462/AVG

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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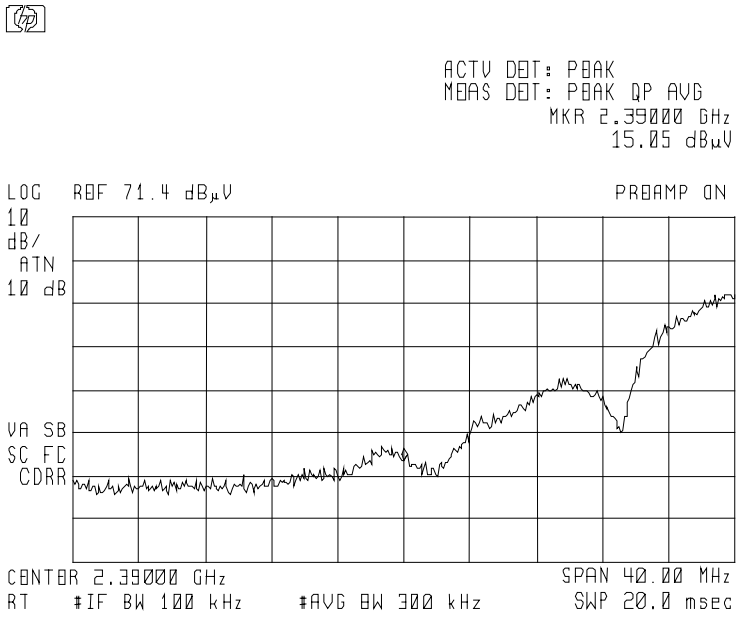
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0160112: 2001-Jun-25 Mon 15:55:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 5.5 MB/SEC PSUDEO RANDOM DATA
LOWER BANDEDGE CH. 2412/PEAK

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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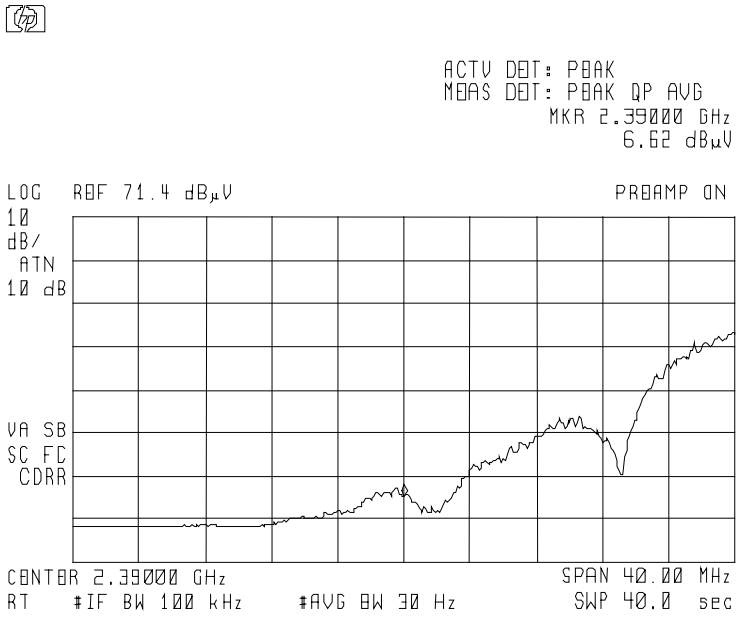
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0160113: 2001-Jun-25 Mon 15:57:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 5.5 MB/SEC PSUDEO RANDOM DATA
LOWER BANDEDGE CH. 2412/AVG

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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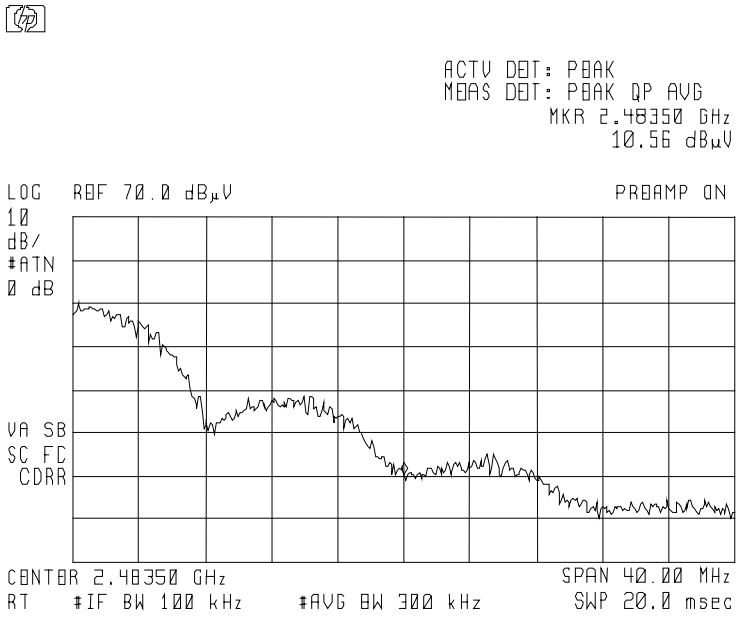
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0160090: 2001-Jun-18 Mon 13:24:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 11 MB/SEC PSUDEO RANDOM DATA
UPPER BANDEDGE CH. 2462/PEAK

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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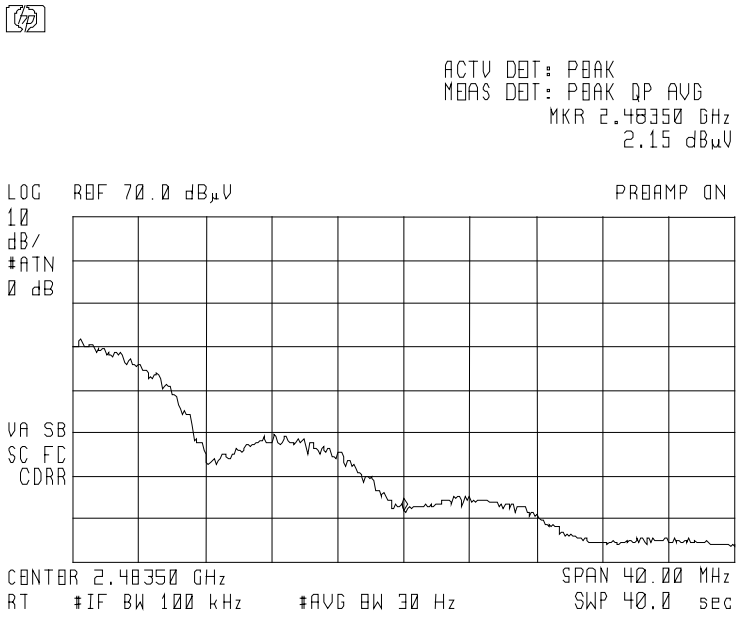
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0160089: 2001-Jun-18 Mon 13:19:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 11 MB/SEC PSUDEO RANDOM DATA
UPPER BANDEDGE CH. 2462/AVG

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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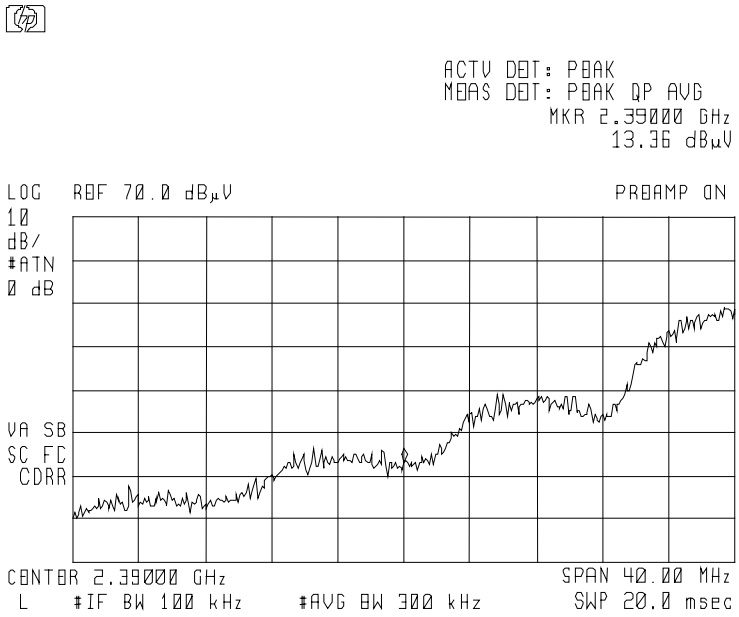
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0160094: 2001-Jun-18 Mon 14:36:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 11 MB/SEC PSUDEO RANDOM DATA
LOWER BANDEDGE CH. 2412/PEAK

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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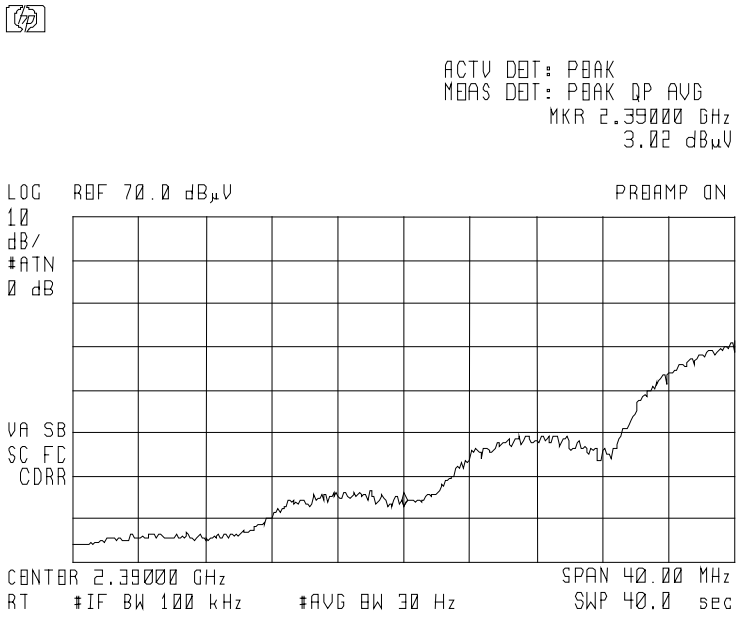
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0160093: 2001-Jun-18 Mon 14:35:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 11MB/SEC PSUDEO RANDOM DATA
LOWER BANDEDGE CH. 2412/AVG

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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NAME OF TEST: Allowed Occupied Bandwidth

SPECIFICATION: 47 CFR 15.247(a)(2)

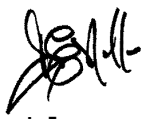
TEST EQUIPMENT: As per attached page

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

MEASURED BANDWIDTH, kHz = 15150 (for 11 MBS)
RESULTS = ATTACHED



PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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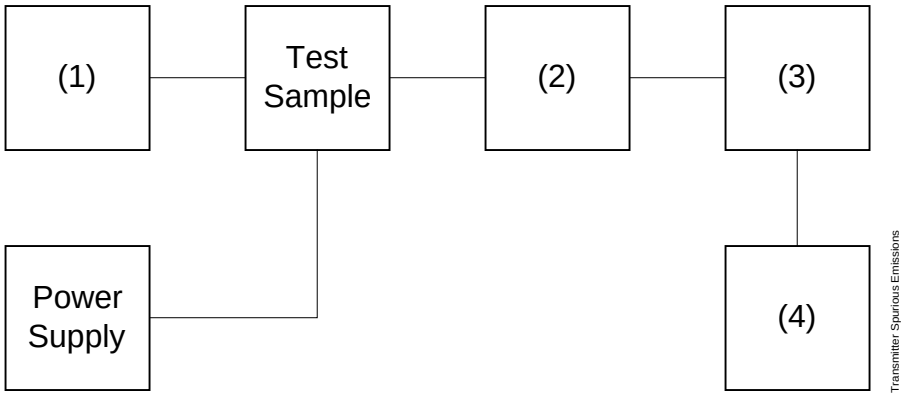
TRANSMITTER SPURIOUS EMISSION

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



Transmitter Spurious Emissions

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

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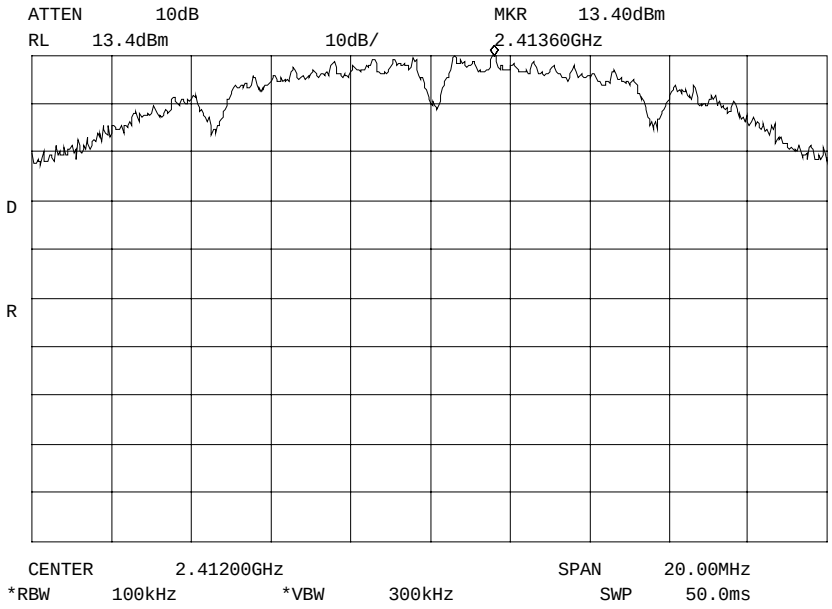
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170126: 2001-Jul-04 Wed 13:34:00
STATE: 2:High Power



POWER: HIGH
MODULATION: FUNDAMENTAL
1 MB/SEC CH. 2412

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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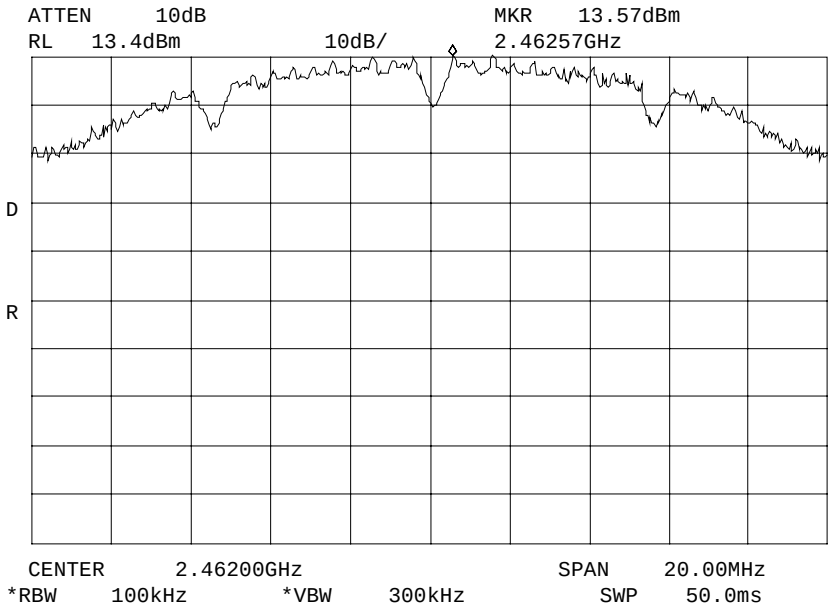
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170062: 2001-Jul-04 Wed 12:39:00
STATE: 2:High Power



POWER: HIGH
MODULATION: FUNDAMENTAL
1 MB/SEC CH. 2462

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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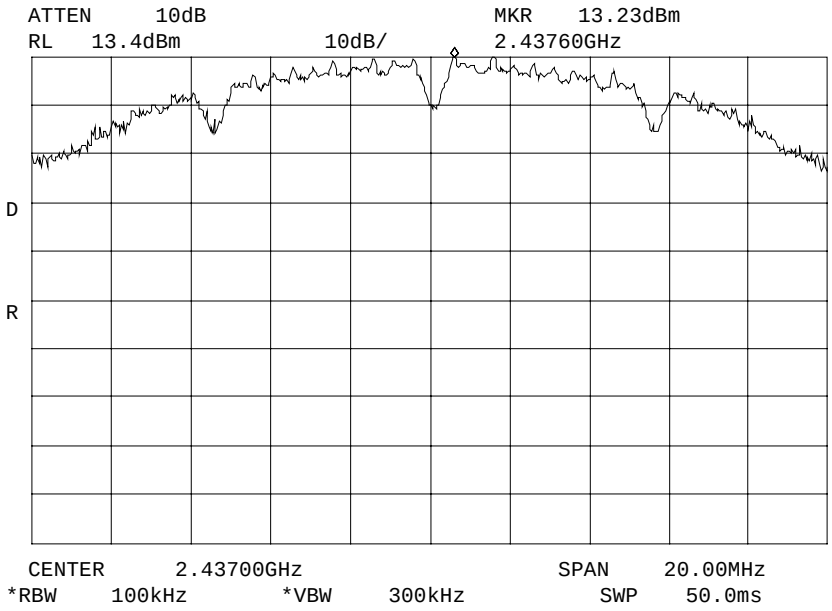
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170065: 2001-Jul-04 Wed 13:19:00
STATE: 2:High Power



POWER: HIGH
MODULATION: FUNDAMENTAL
1 MB/SEC CH. 2437

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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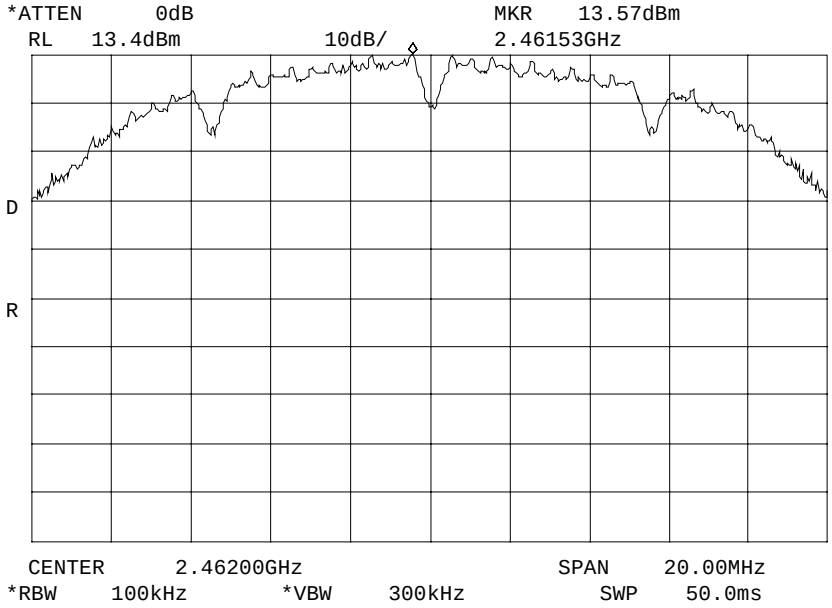
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170037: 2001-Jul-02 Mon 16:03:00
STATE: 2:High Power



POWER: HIGH
MODULATION: FUNDAMENTAL
1 MB/SEC CH. 2462

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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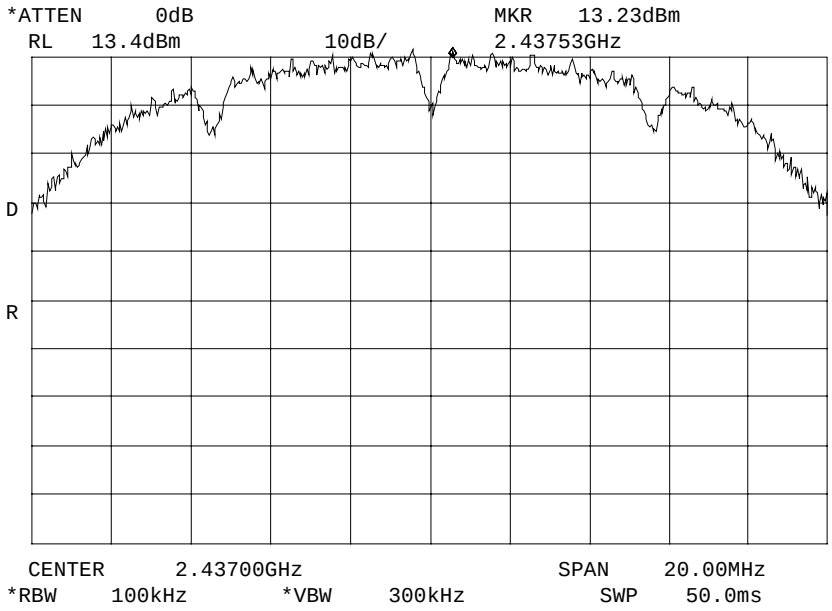
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170027: 2001-Jul-02 Mon 15:45:00
STATE: 2:High Power



POWER: HIGH
MODULATION: FUNDAMENTAL
1MB/SEC CH. 2437

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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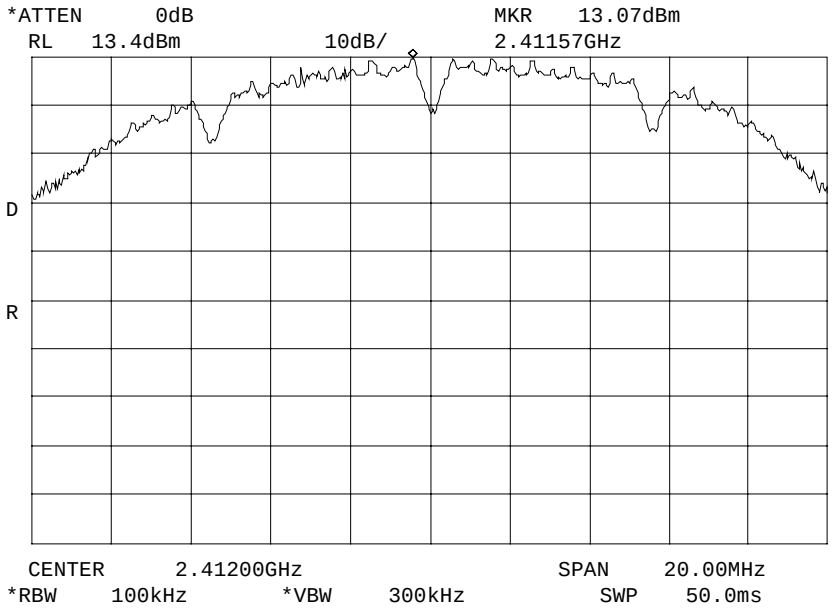
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170036: 2001-Jul-02 Mon 16:03:00
STATE: 2:High Power



POWER: HIGH
MODULATION: FUNDAMENTAL
1 MB/SEC CH. 2412

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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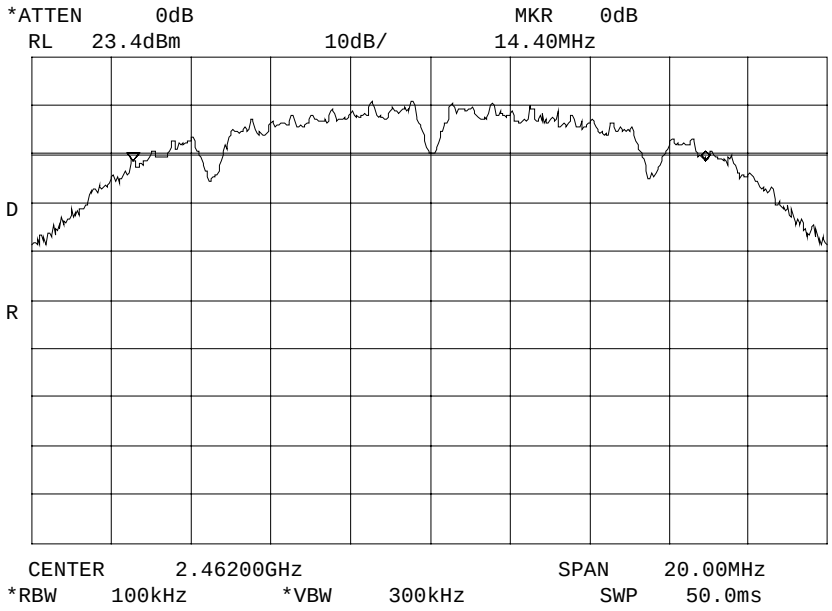
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170044: 2001-Jul-02 Mon 16:24:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 1 MB/SEC PSUDEO RANDOM DATA
6 DB BANDWIDTH CH. 2462

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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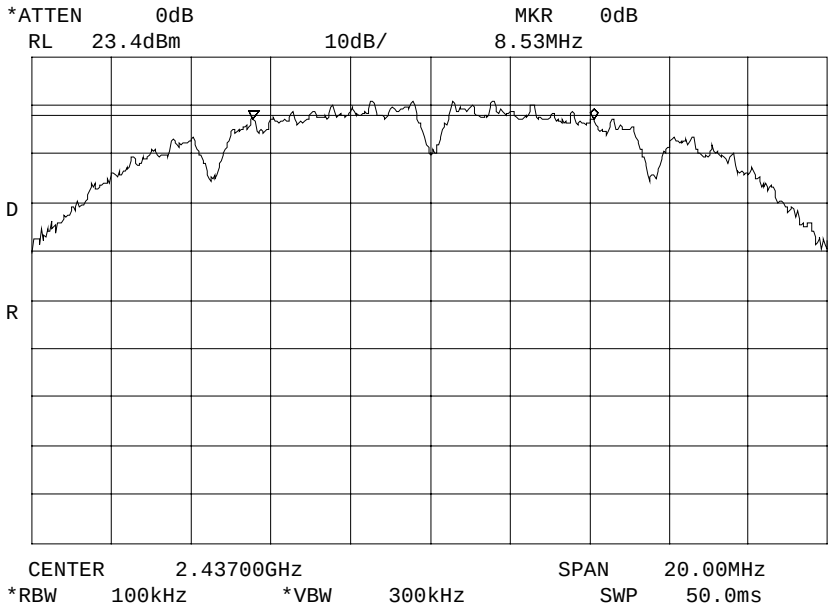
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170045: 2001-Jul-02 Mon 16:26:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 1 MB/SEC PSUDEO RANDOM DATA
6 DB BANDWIDTH CH. 2437

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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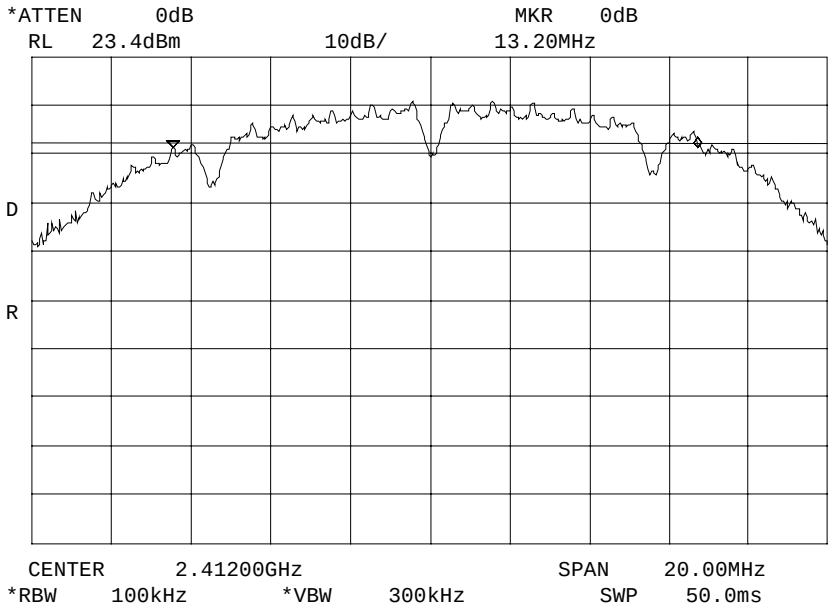
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170052: 2001-Jul-02 Mon 16:39:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 1 MB/SEC PSUDEO RANDOM DATA
6 DB BANDWIDTH CH. 2412

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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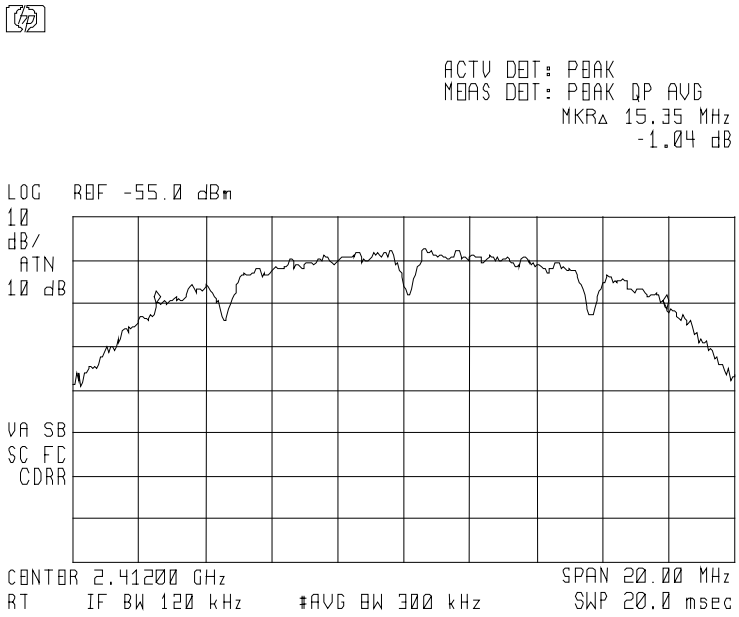
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170067: 2001-Jul-04 Wed 14:45:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 99% POWER BANDWIDTH
1 MB/SEC CH. 2412

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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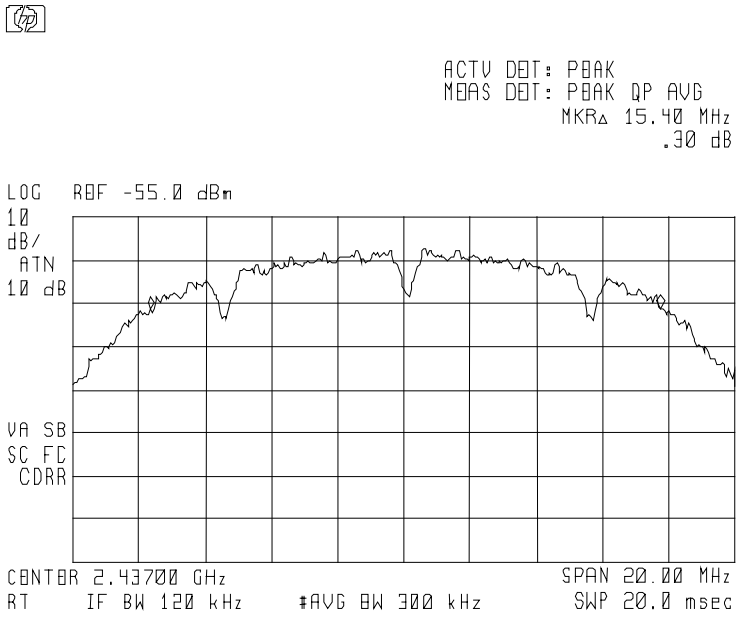
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170066: 2001-Jul-04 Wed 14:18:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 99% POWER BANDWIDTH
1 MB/SEC CH. 2437

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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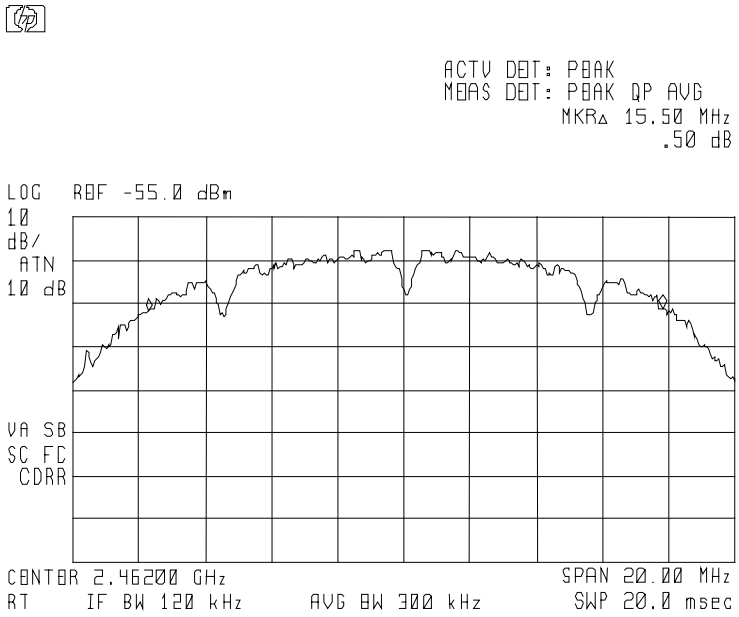
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170063: 2001-Jul-04 Wed 12:51:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 99% POWER BANDWDITH
1 MB/SEC CH. 2462

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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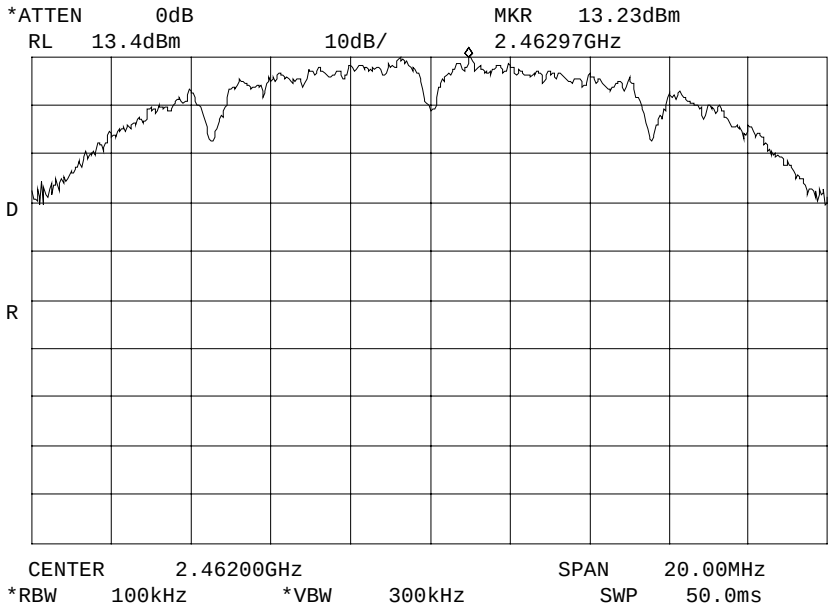
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170038: 2001-Jul-02 Mon 16:04:00
STATE: 2:High Power



POWER: HIGH
MODULATION: FUNDAMENTAL
2 MB/SEC CH. 2462

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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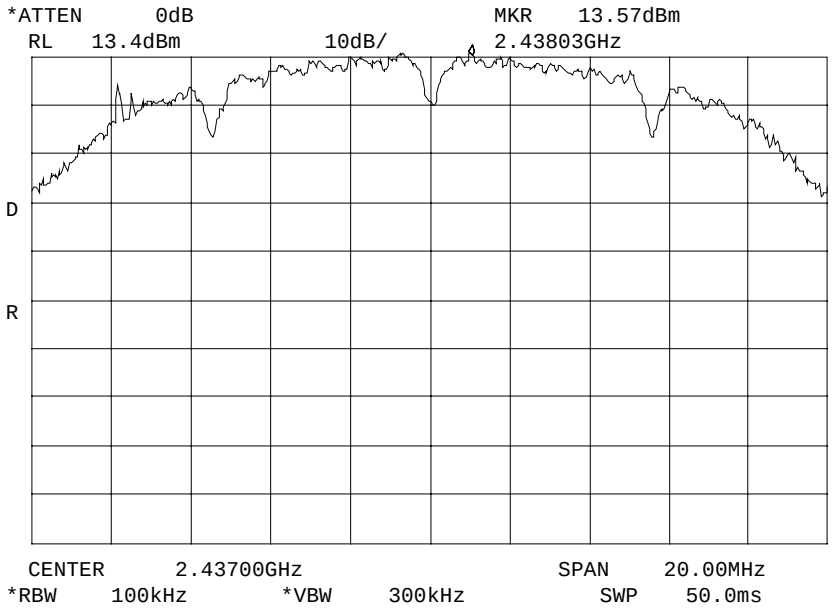
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170025: 2001-Jul-02 Mon 15:37:00
STATE: 2:High Power



POWER: HIGH
MODULATION: FUNDAMENTAL
2MB/SEC CH. 2437

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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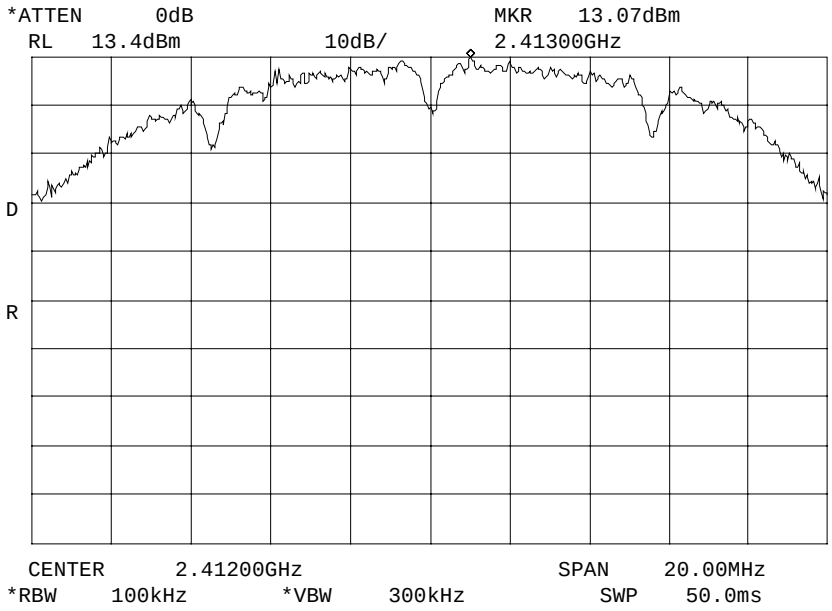
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170035: 2001-Jul-02 Mon 16:02:00
STATE: 2:High Power



POWER: HIGH
MODULATION: FUNDAMENTAL
2 MB/SEC CH. 2412

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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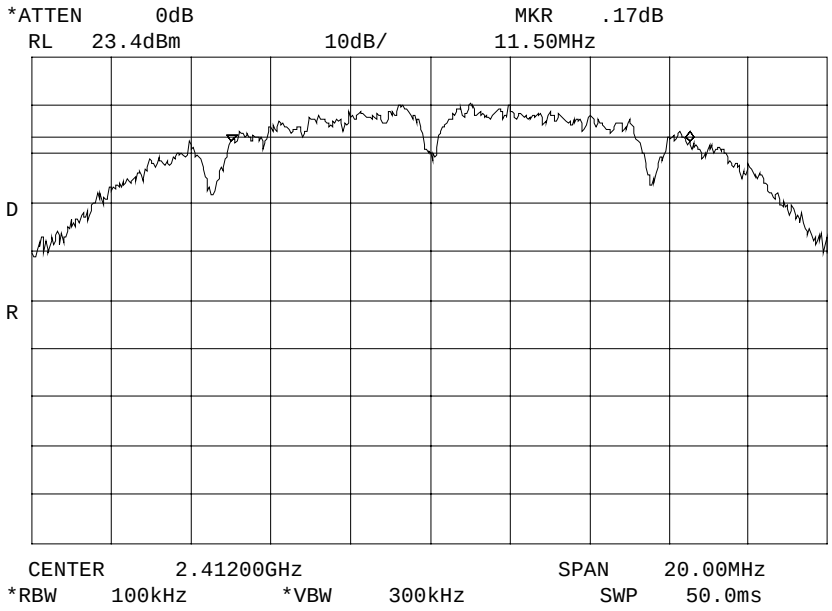
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170051: 2001-Jul-02 Mon 16:38:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 2 MB/SEC PSUDEO RANDOM DATA
6 DB BANDWIDTH CH. 2412

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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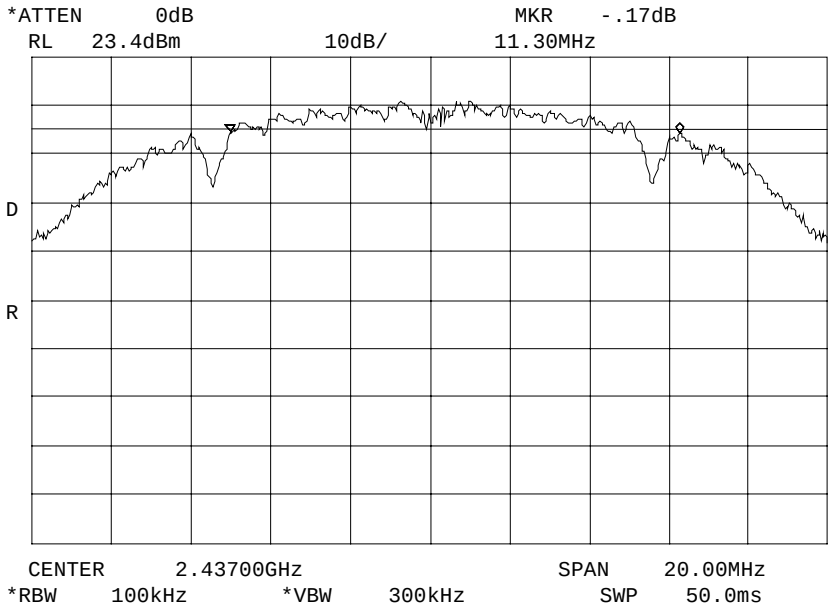
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170046: 2001-Jul-02 Mon 16:29:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 2 MB/SEC PSUDEO RANDOM DATA
6 DB BANDWIDTH CH. 2437

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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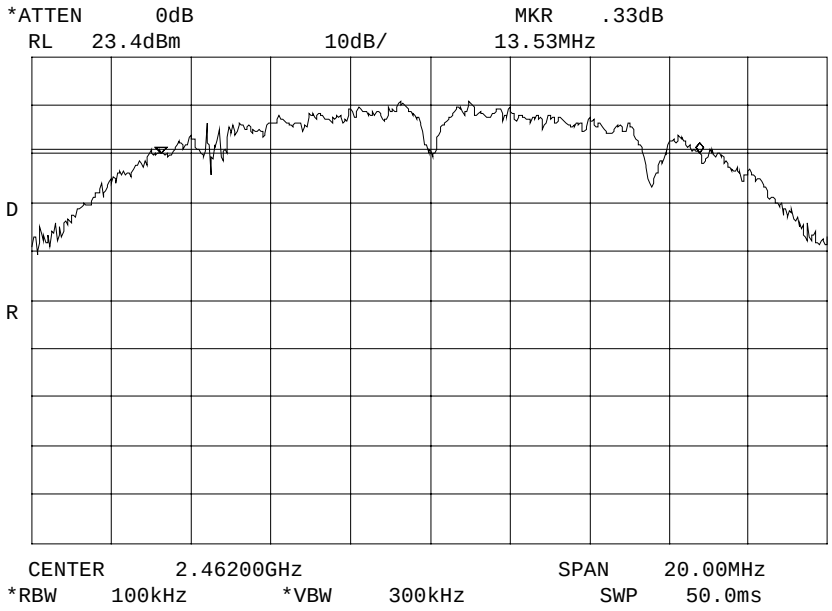
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170043: 2001-Jul-02 Mon 16:23:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 2 MB/SEC PSUDEO RANDOM DATA
6 DB BANDWIDTH CH. 2462

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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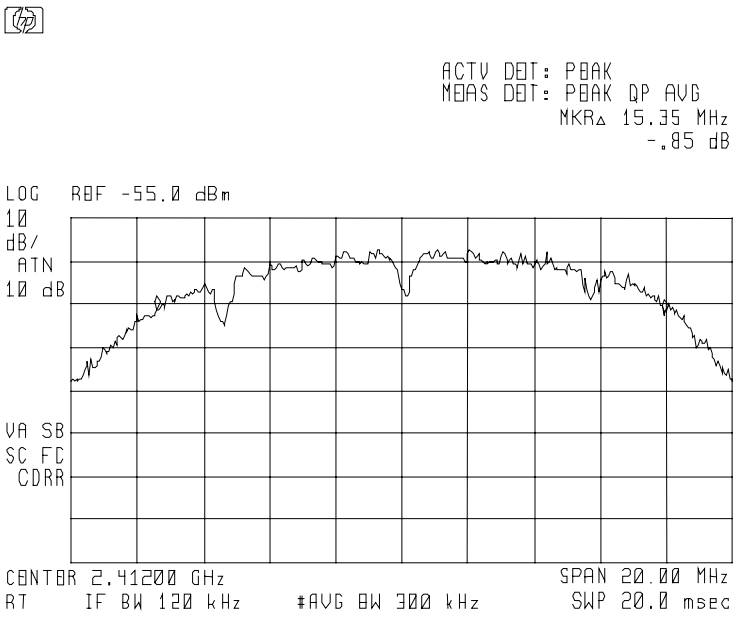
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170141: 2001-Jul-04 Wed 14:44:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 99% POWER BANDWIDTH
2 MB/SEC CH. 2412

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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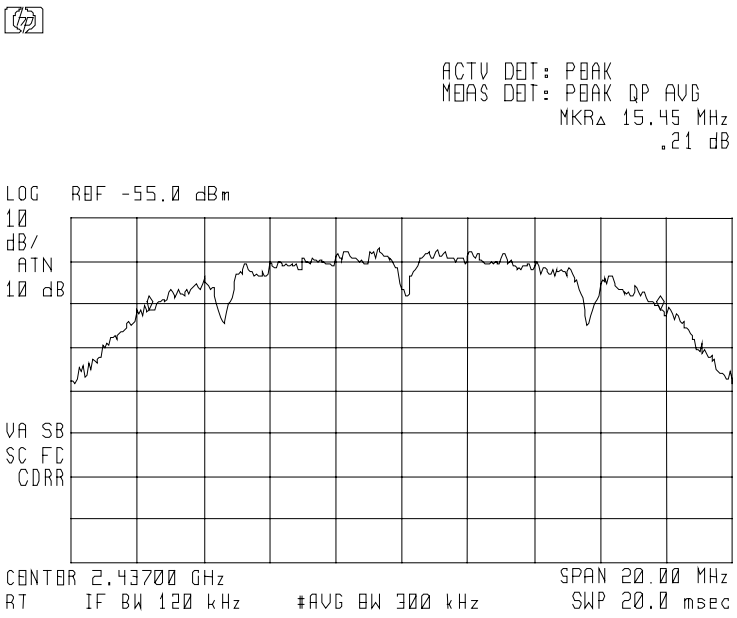
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170136: 2001-Jul-04 Wed 14:17:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 99% POWER BANDWIDTH
2 MB/SEC CH. 2437

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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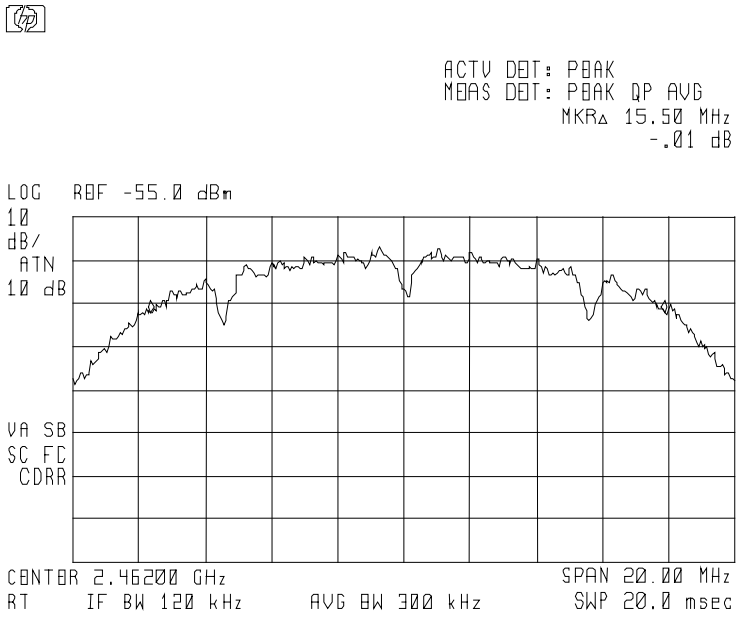
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170064: 2001-Jul-04 Wed 12:55:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 99% POWER BANDWDITH
2 MB/SEC CH. 2462

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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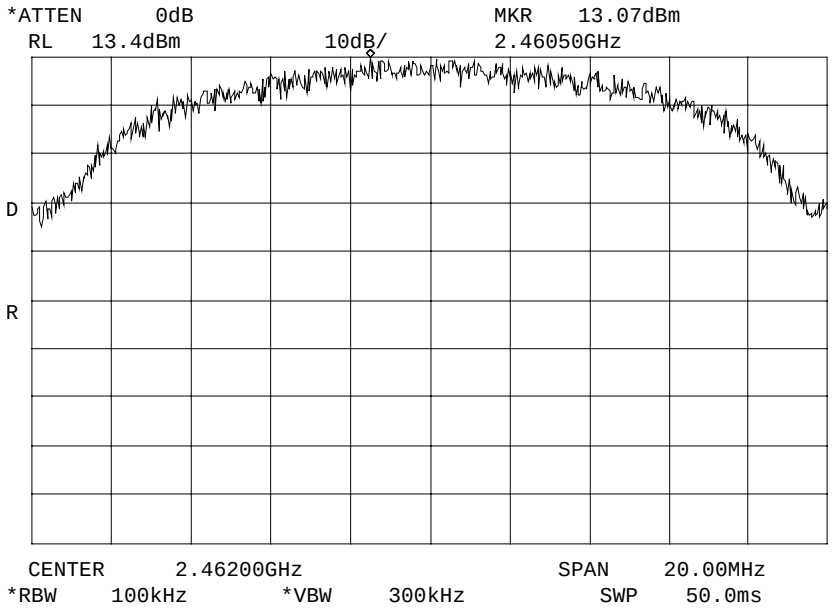
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170039: 2001-Jul-02 Mon 16:06:00
STATE: 2:High Power



POWER: HIGH
MODULATION: FUNDAMENTAL
5.5 MB/SEC CH. 2462

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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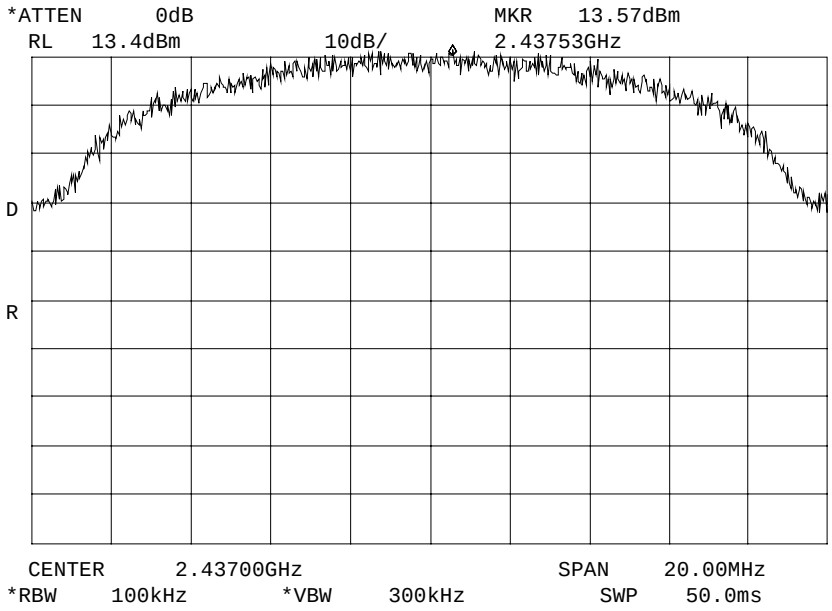
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170028: 2001-Jul-02 Mon 15:47:00
STATE: 2:High Power



POWER: HIGH
MODULATION: FUNDAMENTAL
5.5 MB/SEC CH. 2437

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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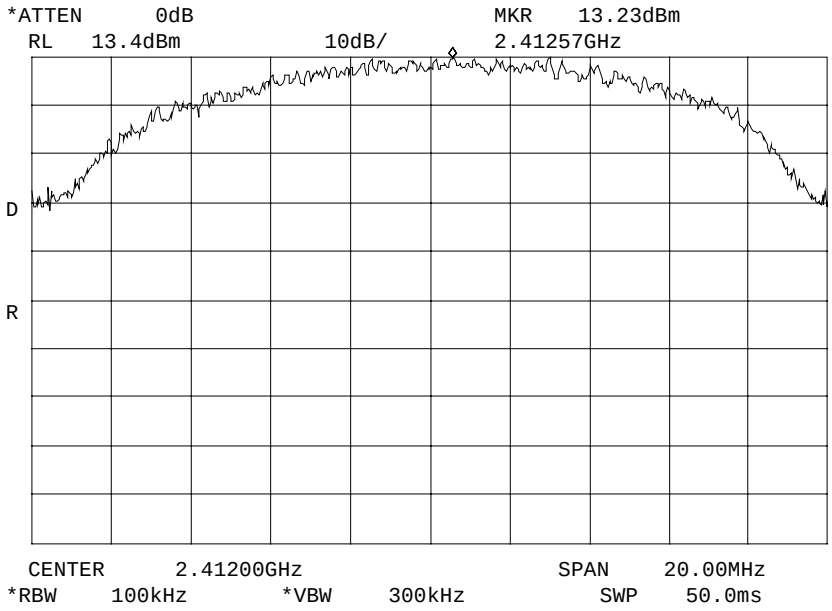
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170033: 2001-Jul-02 Mon 15:59:00
STATE: 2:High Power



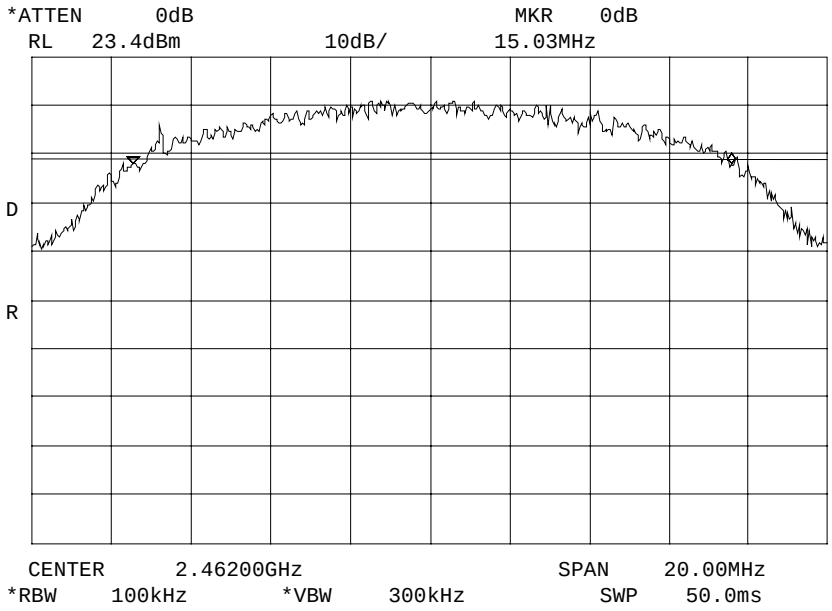
POWER: HIGH
MODULATION: FUNDAMENTAL
5.5 MB/SEC CH. 2412

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

PAGE NO. 61 of 94.

NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170042: 2001-Jul-02 Mon 16:21:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 5.5 MB/SEC PSUDEO RANDOM DATA
6 DB BANDWIDTH CH. 2462

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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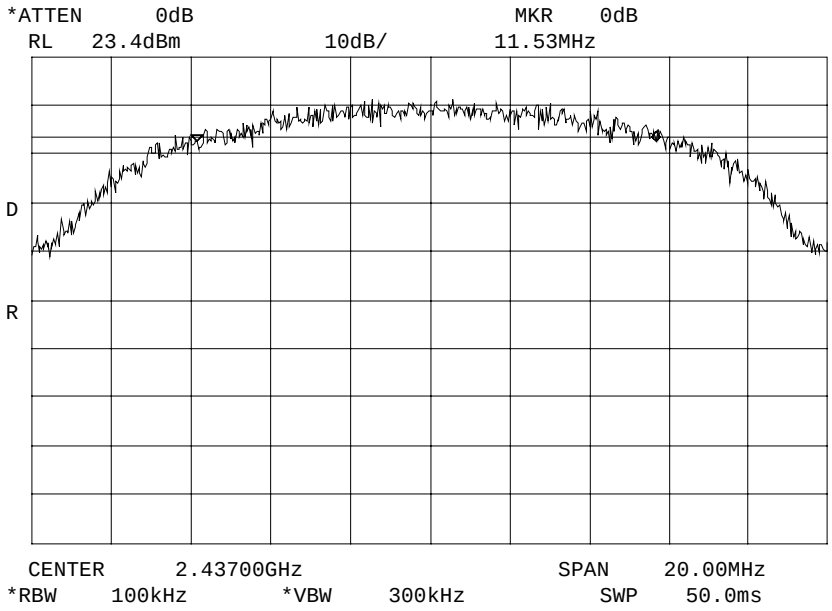
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170047: 2001-Jul-02 Mon 16:31:00
STATE: 2:High Power



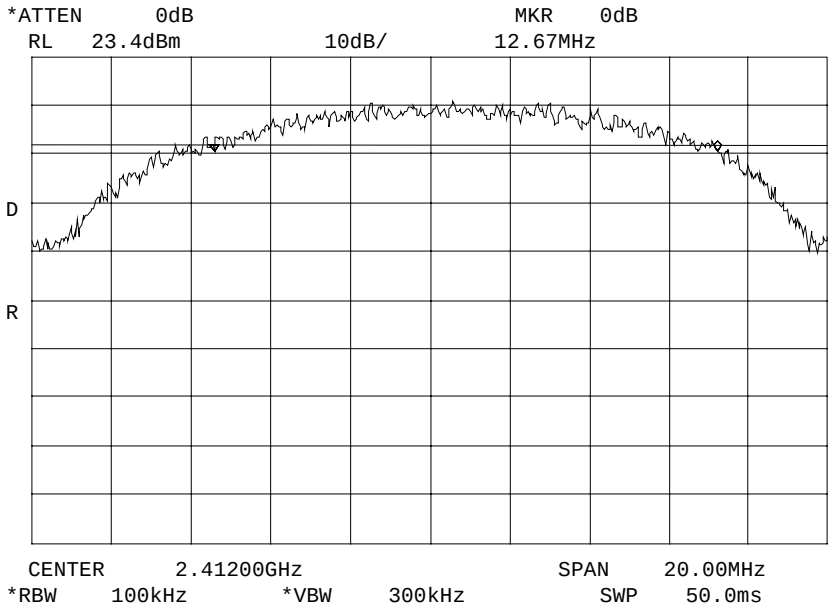
POWER: HIGH
MODULATION: 5.5 MB/SEC PSUDEO RANDOM DATA
6 DB BANDWIDTH CH. 2437

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

PAGE NO. 63 of 94.

NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170050: 2001-Jul-02 Mon 16:36:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 5.5 MB/SEC PSUDEO RANDOM DATA
6 DB BANDWIDTH CH. 2412

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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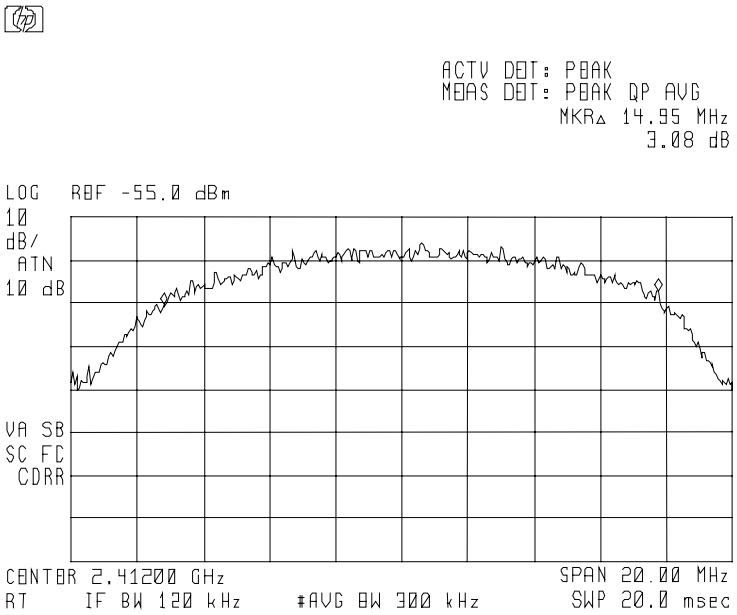
NAME OF TEST: Emission Masks (Occupied Bandwidth)
Indicating 6/20 dB Bandwidth

g0170140: 2001-Jul-04 Wed 14:43:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 99% POWER BANDWIDTH
5.5 MB/SEC CH. 2412

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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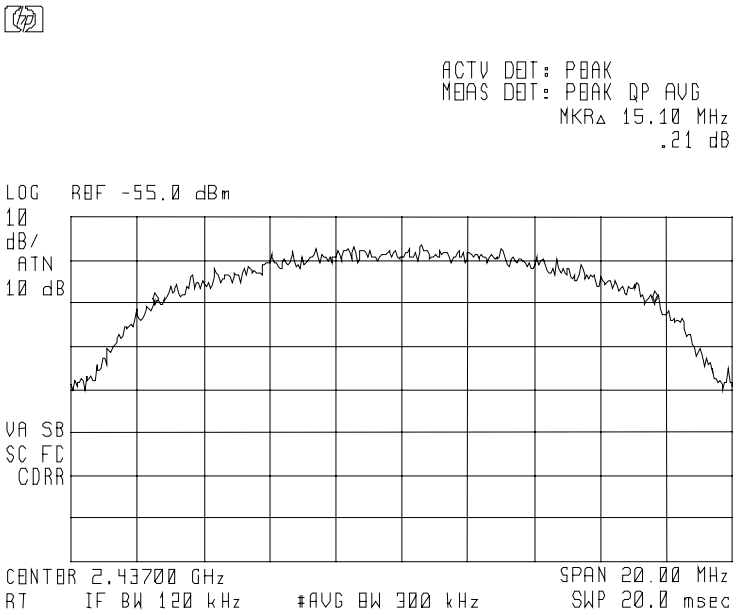
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170135: 2001-Jul-04 Wed 14:16:00
STATE: 2:High Power



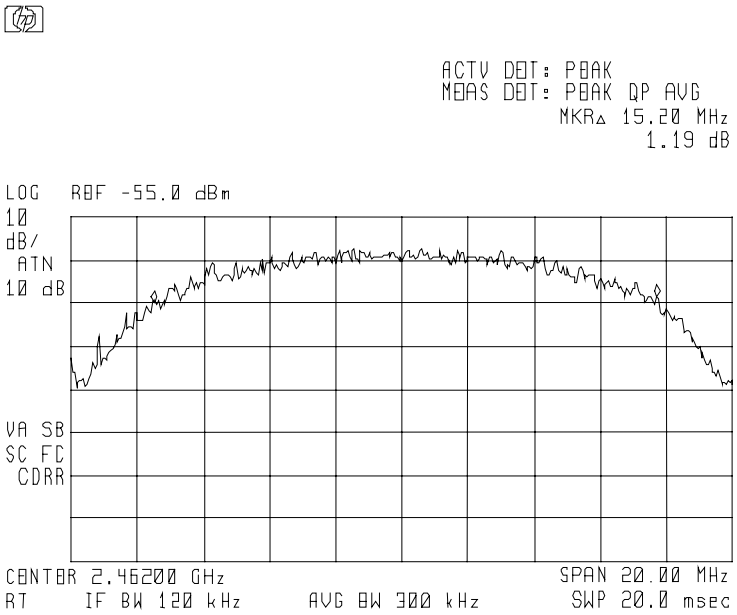
POWER: HIGH
MODULATION: 99% POWER BANDWIDTH
5.5 MB/SEC CH. 2437

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

PAGE NO. 66 of 94.

NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170119: 2001-Jul-04 Wed 12:56:00
STATE: 2:High Power



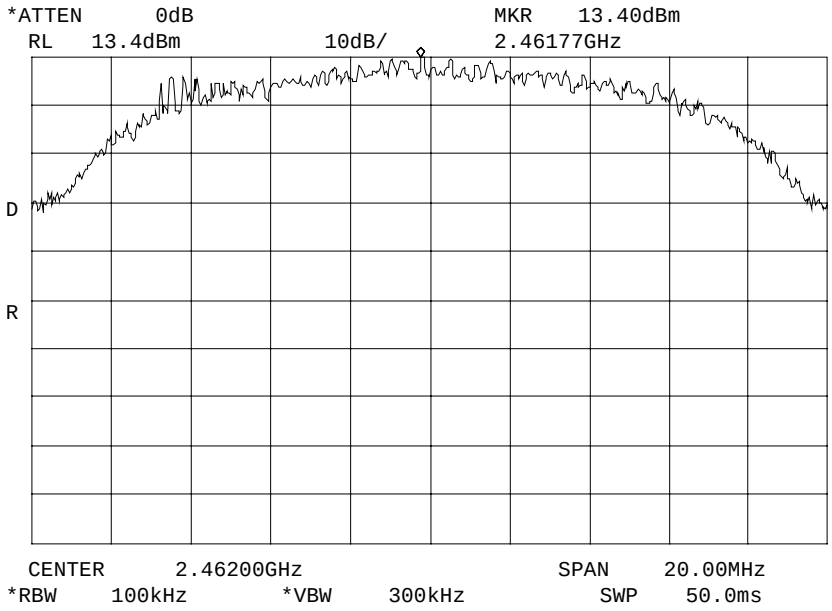
POWER: HIGH
MODULATION: 99% POWER BANDWDITH
5.5 MB/SEC CH. 2462

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

PAGE NO. 67 of 94.

NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170040: 2001-Jul-02 Mon 16:07:00
STATE: 2:High Power



POWER: HIGH
MODULATION: FUNDAMENTAL
11 MB/SEC CH. 2462

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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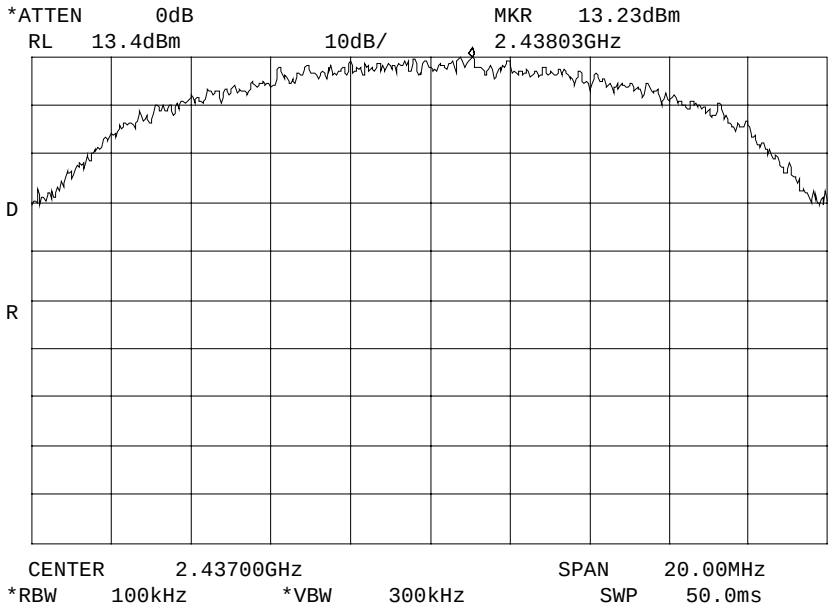
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170029: 2001-Jul-02 Mon 15:51:00
STATE: 2:High Power



POWER: HIGH
MODULATION: FUNDAMENTAL
11 MB/SEC CH. 2437

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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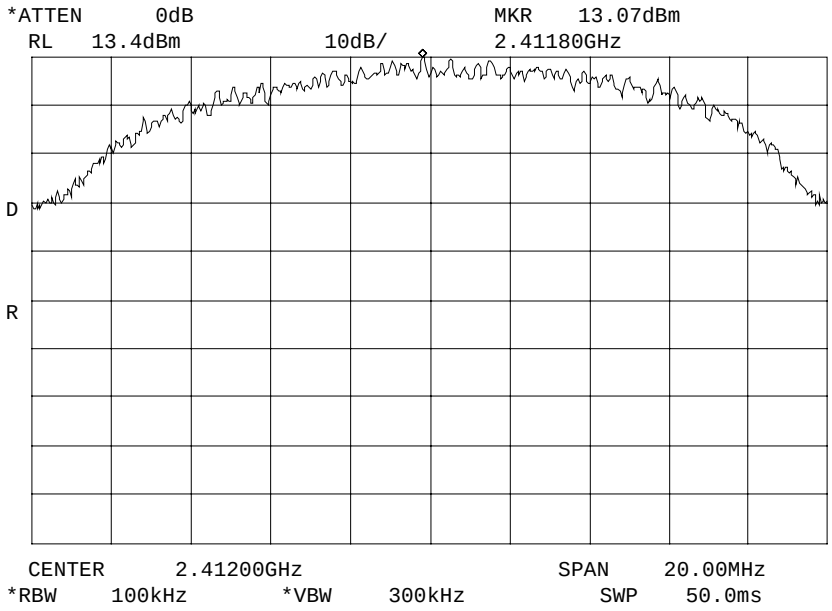
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170034: 2001-Jul-02 Mon 16:00:00
STATE: 2:High Power



POWER: HIGH
MODULATION: FUNDAMENTAL
11 MB/SEC CH. 2412

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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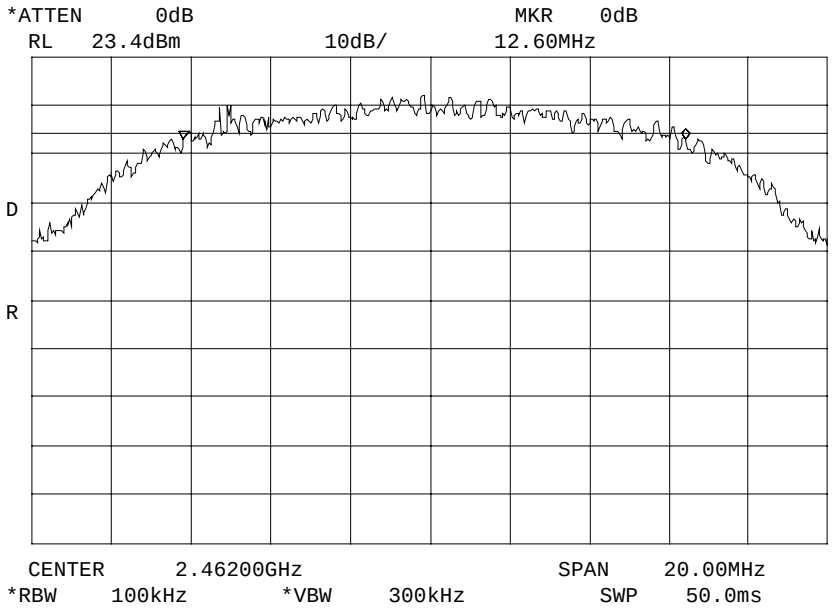
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170041: 2001-Jul-02 Mon 16:19:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 11 MB/SEC PSUDEO RANDOM DATA
6 DB BANDWIDTH CH. 2462

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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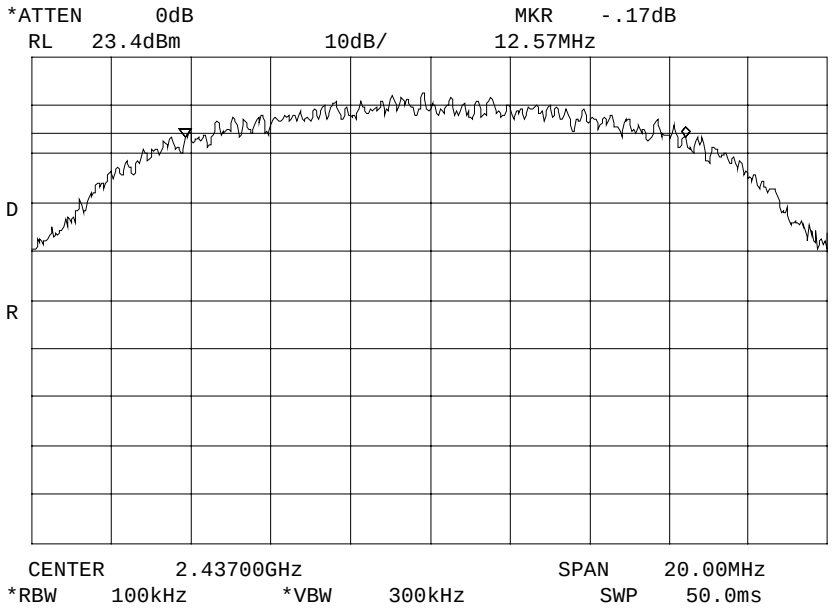
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170048: 2001-Jul-02 Mon 16:32:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 11 MB/SEC PSUDEO RANDOM DATA
6 DB BANDWIDTH CH. 2437

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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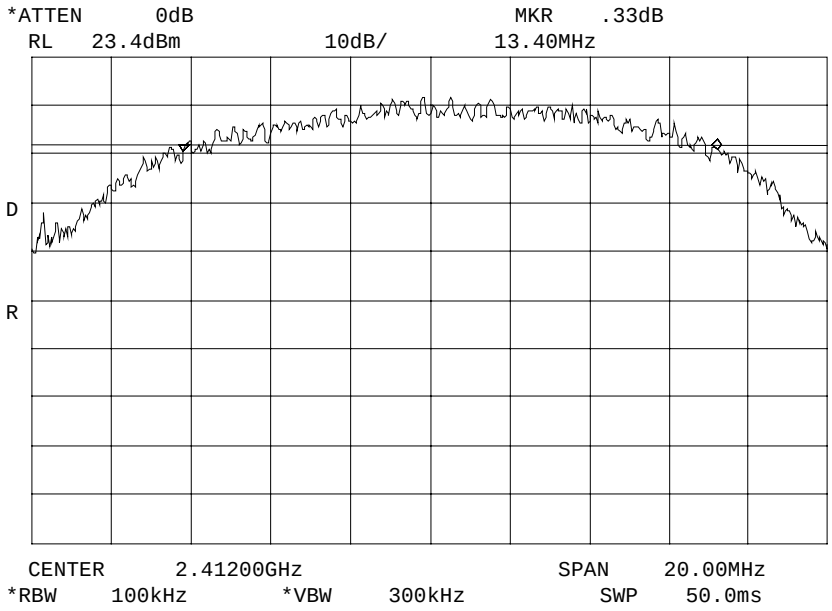
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170049: 2001-Jul-02 Mon 16:34:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 11 MB/SEC PSUDEO RANDOM DATA
6 DB BANDWIDTH CH. 2412

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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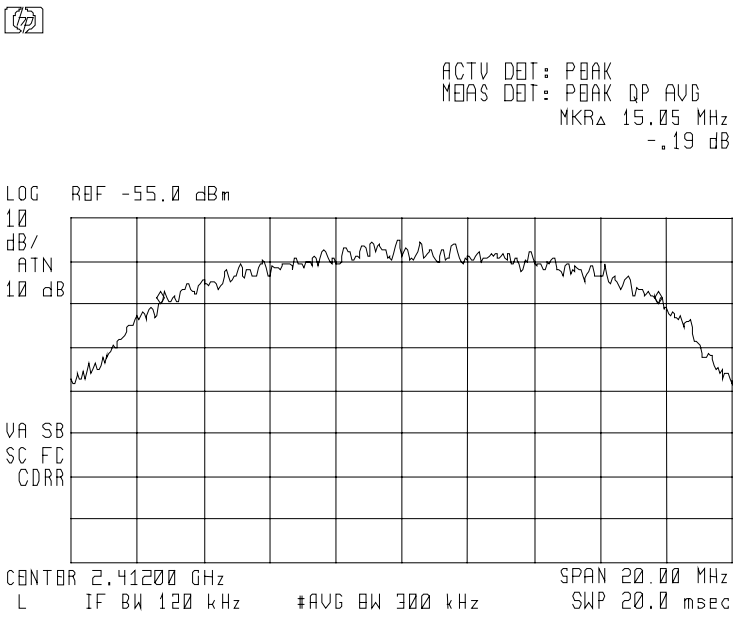
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170133: 2001-Jul-04 Wed 14:08:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 99% POWER BANDWIDTH
11 MB/SEC CH. 2412

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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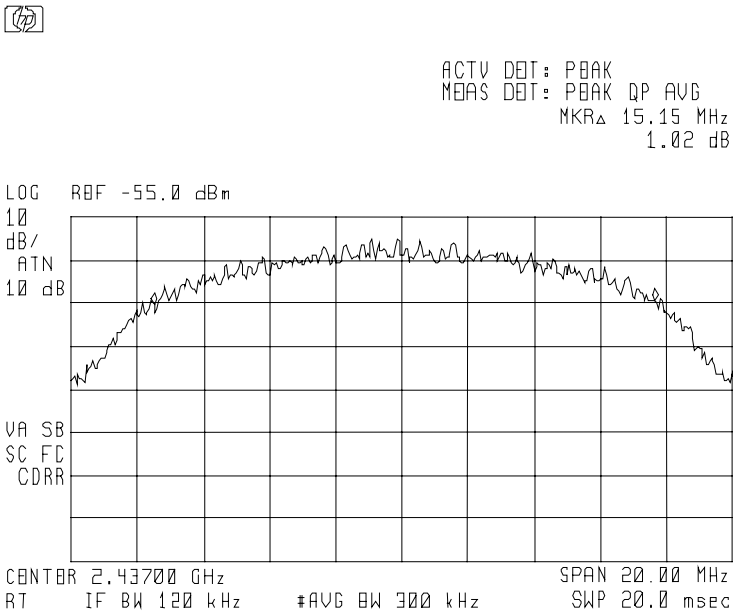
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170134: 2001-Jul-04 Wed 14:11:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 99% POWER BANDWIDTH
11 MB/SEC CH. 2437

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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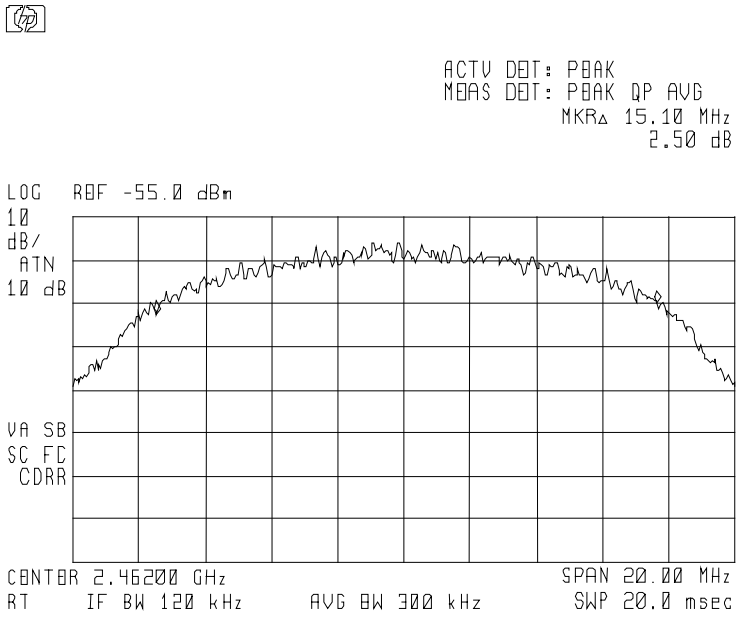
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170061: 2001-Jul-04 Wed 12:58:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 99% POWER BANDWDITH
11 MB/SEC CH. 2462

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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NAME OF TEST: Spread Spectrum Technology
Direct Sequence Systems

15.247(a)(2) Minimum 6 dB Bandwidth
RESULTS: Please see results for "Allowed Occupied Bandwidth"

15.247(d) Transmitter Power Density
LIMIT: The transmitter power density peak over any 1 second interval shall not be greater that 8 dBm in any 3 kHz Bandwidth within these bands.
RESULTS: Please see attached plots.
Transmitter Power Density, dBm = -12

15.247(e) Processing Gain
LIMIT: The processing gain shall be ≥ 10 dB
RESULTS: See Applicant's statement
Processing Gain, dB = ≥ 10.8

Psuedorandom Sequence Description
RESULTS: See FCC ID: MXF-WX1500

Chip Rate
RESULTS: See Applicant's statement
Chip Rate, MHz See FCC ID: MXF-WX1500

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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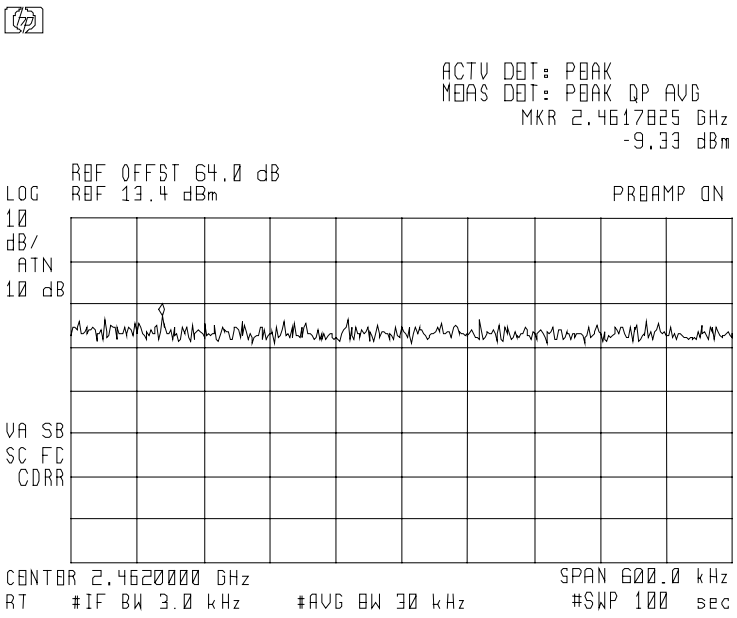
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170115: 2001-Jul-04 Wed 11:55:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 1 MB/SEC
SPECTRAL POWER DENSITY

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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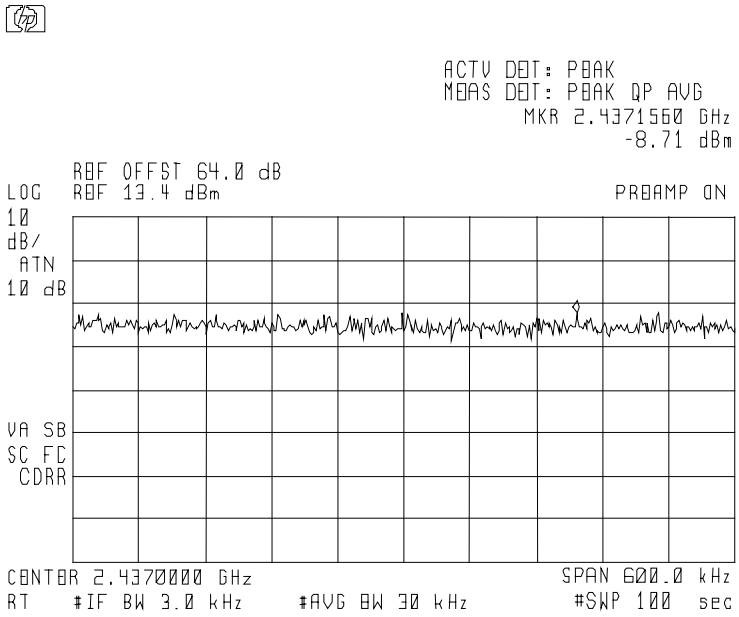
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170057: 2001-Jul-04 Wed 10:28:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 1 MB/SEC
SPECTRAL POWER DENSITY

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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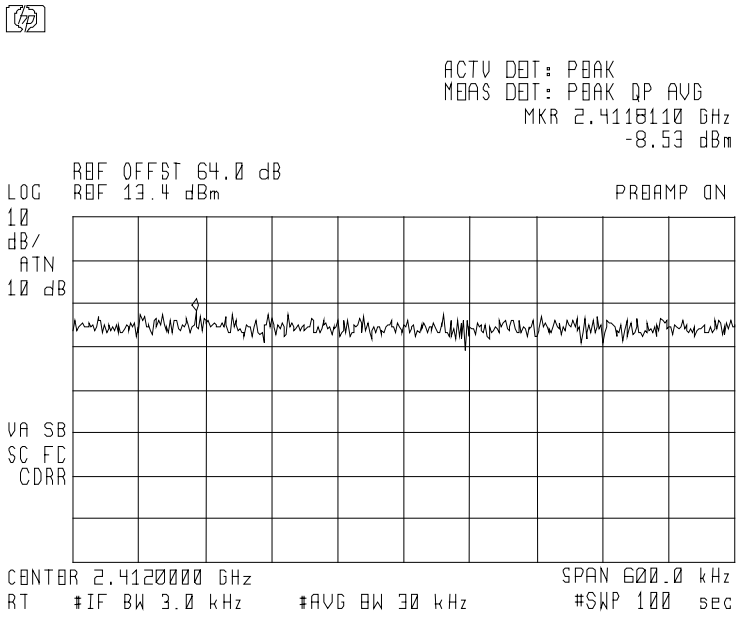
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170056: 2001-Jul-04 Wed 09:59:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 1 MB/SEC
SPECTRAL POWER DENSITY

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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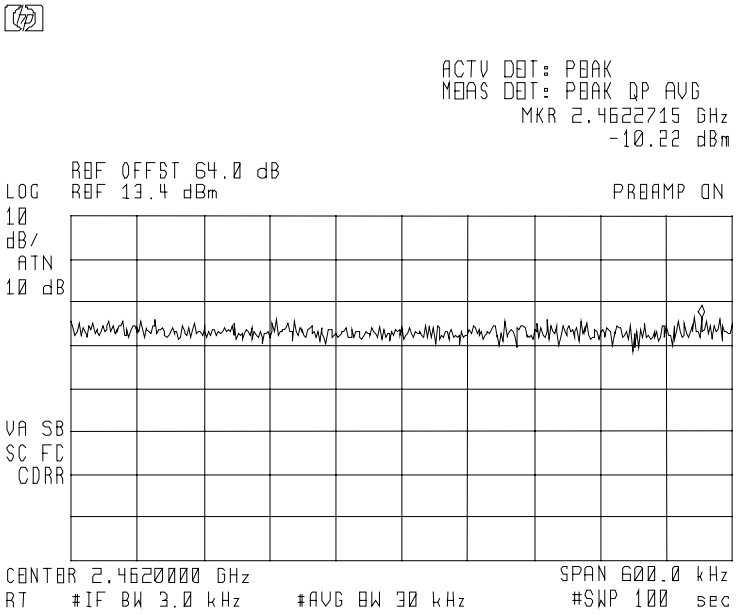
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170114: 2001-Jul-04 Wed 11:42:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 2 MB/SEC
SPECTRAL POWER DENSITY

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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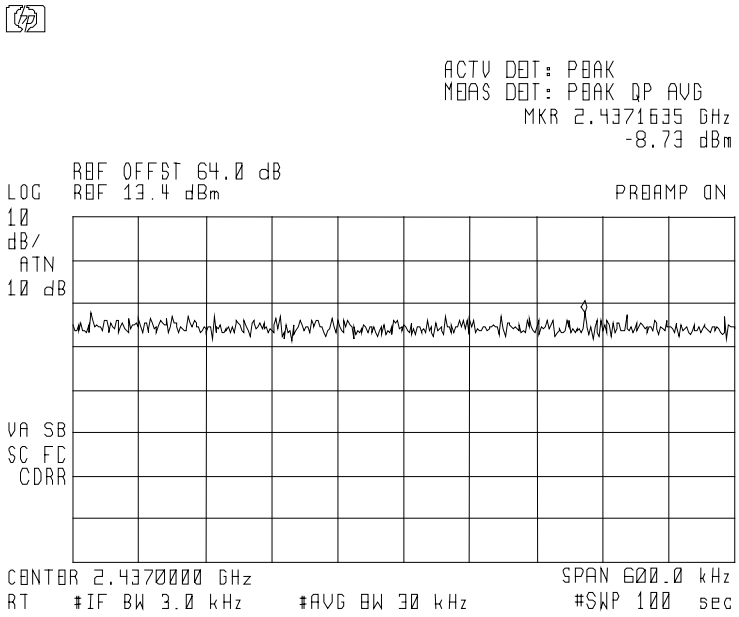
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170058: 2001-Jul-04 Wed 10:41:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 2 MB/SEC
SPECTRAL POWER DENSITY

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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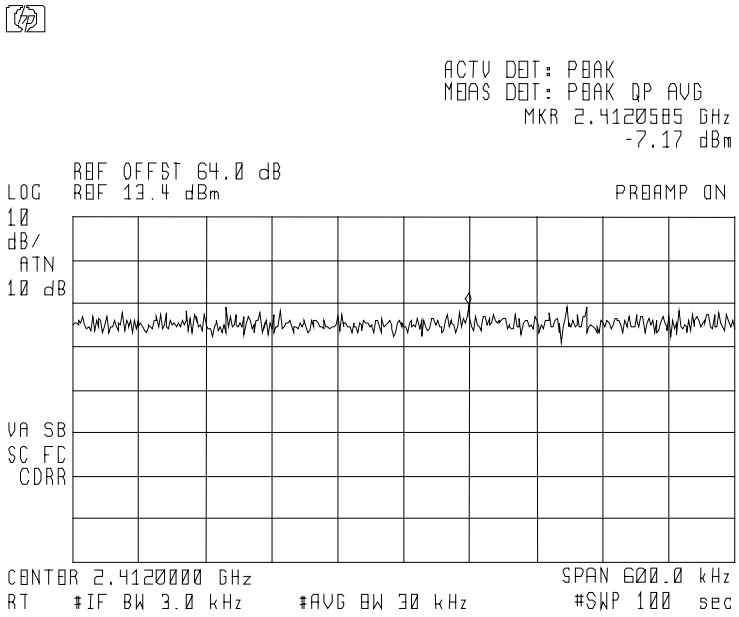
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170055: 2001-Jul-04 Wed 09:49:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 2 MB/SEC
SPECTRAL POWER DENSITY

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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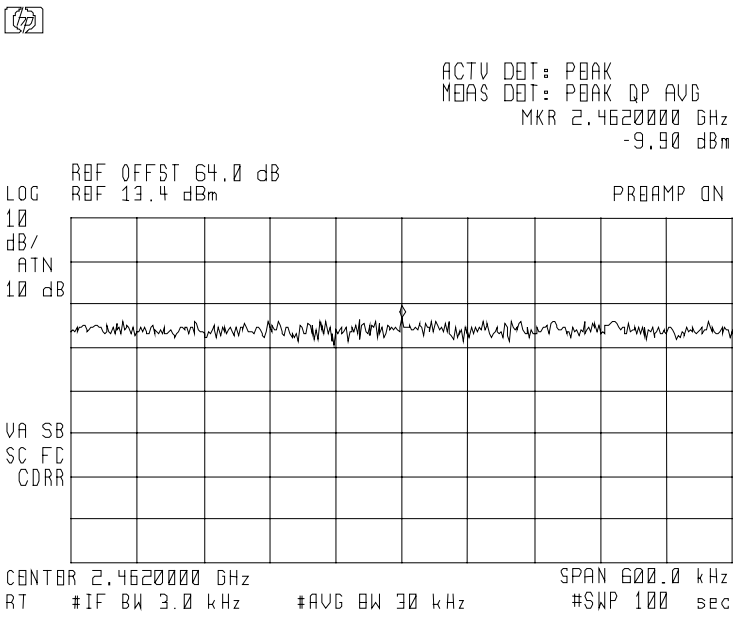
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170113: 2001-Jul-04 Wed 11:33:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 5.5 MB/SEC
SPECTRAL POWER DENSITY

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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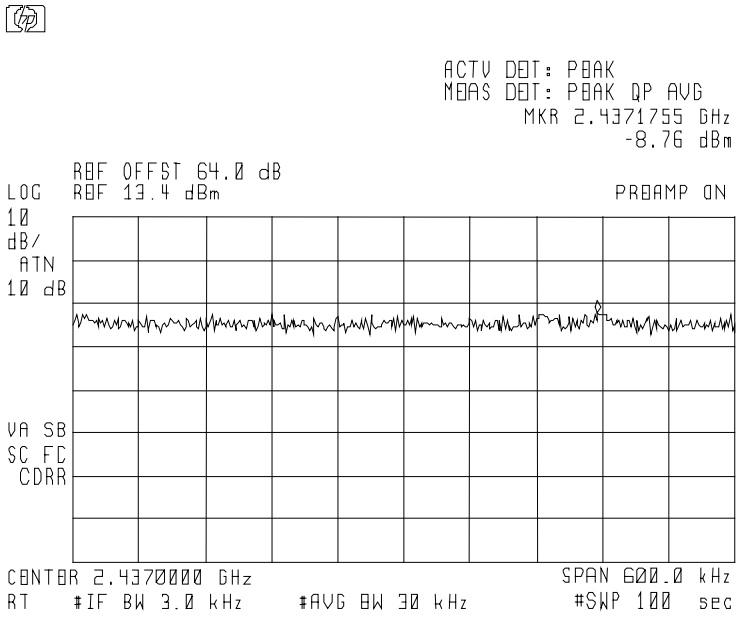
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170059: 2001-Jul-04 Wed 10:51:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 5.5 MB/SEC
SPECTRAL POWER DENSITY

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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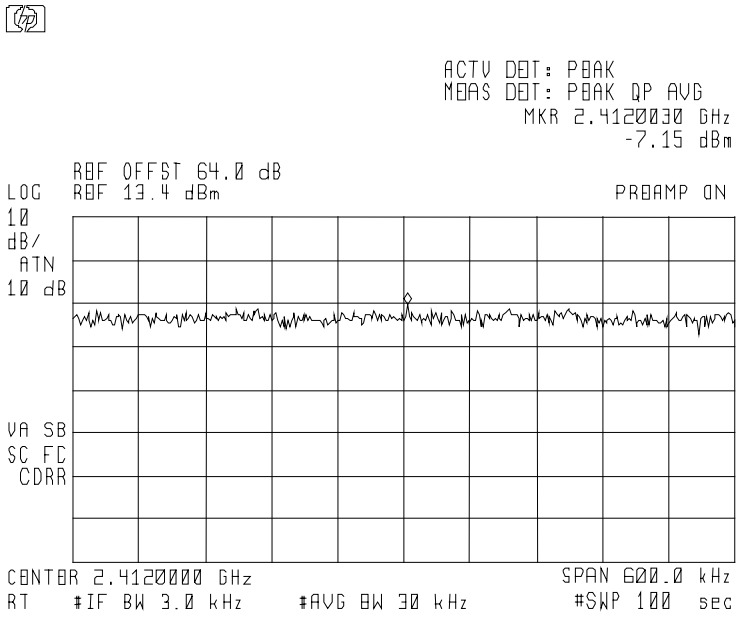
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170054: 2001-Jul-04 Wed 09:38:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 5.5 MB/SEC
SPECTRAL POWER DENSITY

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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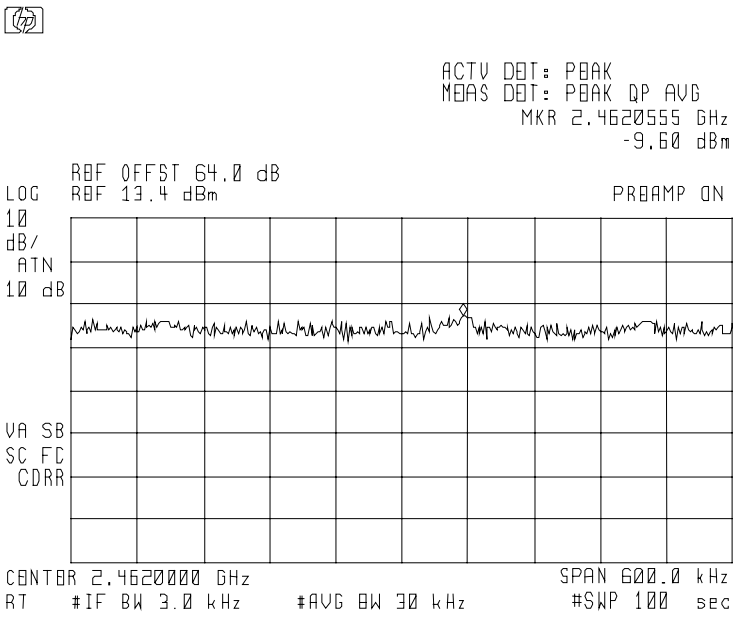
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170112: 2001-Jul-04 Wed 11:23:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 11 MB/SEC
SPECTRAL POWER DENSITY

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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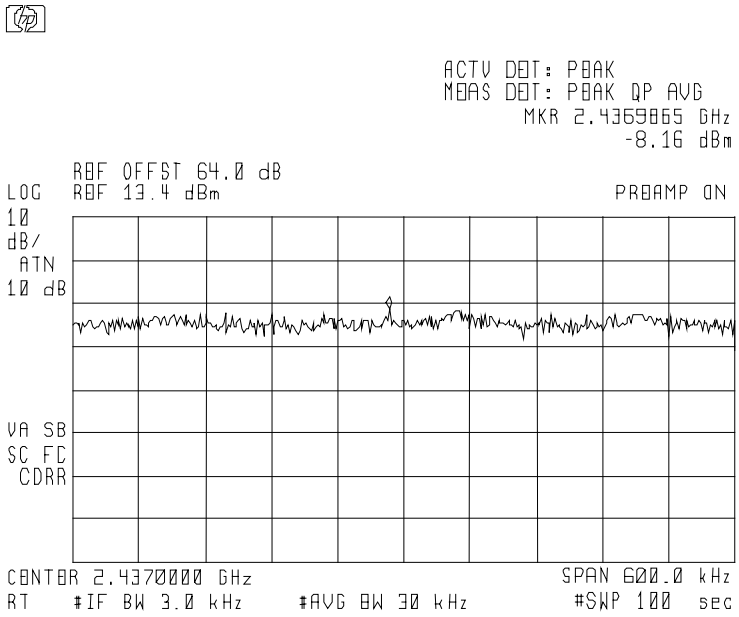
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170060: 2001-Jul-04 Wed 11:00:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 11 MB/SEC
SPECTRAL POWER DENSITY

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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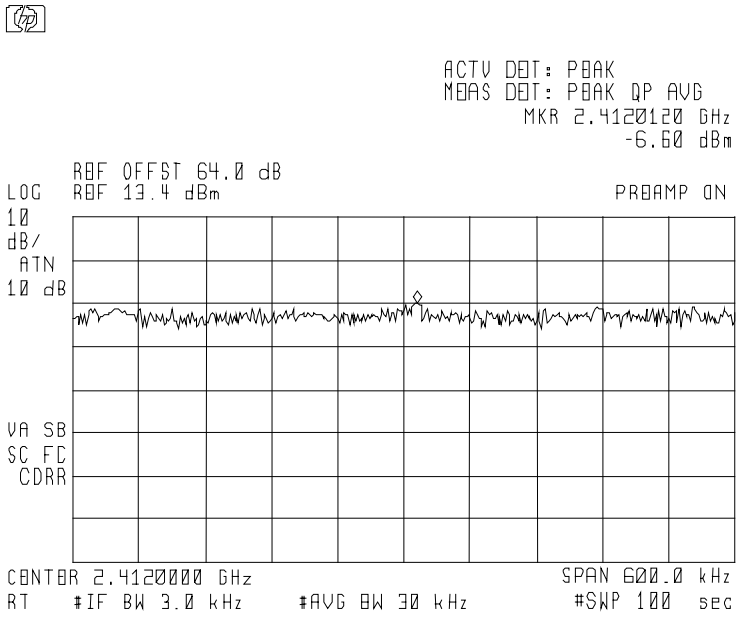
NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0170053: 2001-Jul-04 Wed 09:20:00
STATE: 2:High Power



POWER: HIGH
MODULATION: 11 MB/SEC
SPECTRAL POWER DENSITY

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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NAME OF TEST: A/C Powerline Conducted Emissions

SPECIFICATION: FCC: 47 CFR 15.207

GUIDE: IEEE Standard 213

TEST CONDITIONS: S. T. & H.

TEST EQUIPMENT: As per attached page

MEASUREMENT PROCEDURE

1. A test sample was connected to the Public Utility lines through a LISN Ailtech Model 94641-1 (50 µH).

2. A reference level of 250 µV was set on the Spectrum Analyzer. The spectrum was searched over the range of 450 kHz to 30 MHz.

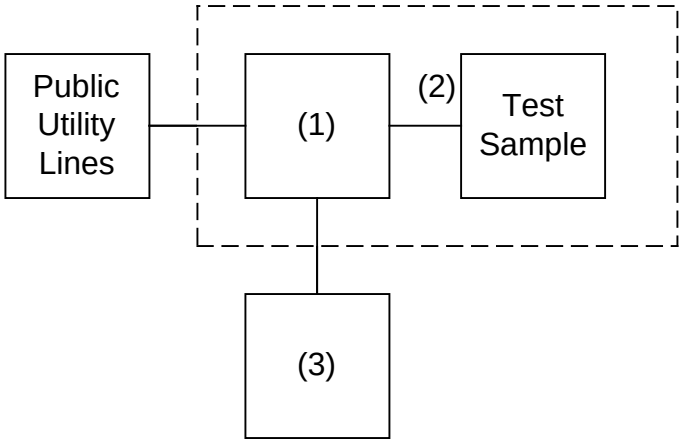
3. All other emissions were 20 dB or more below limit.

4. ___ The test sample used a charger.
   _x_ The test sample does not use a charger.

5. Measurement Results: Attached.

PAGE NO.

AC POWERLINE CONDUCTED MEASUREMENTS



Asset	Description	s/n	Cycle (Per ANSI C63.4-1992/2000, 10.1.4)	Last Cal
(as applicable)				
(1) AUDIO SIGNAL GENERATOR				
i00077	Singer 91221-1 (5 µH)	0396	12 mo.	
i00155	Eaton 94641-1 (50 µH)	178	12 mo.	Sep-00
i00167	Ailtech 94641-1 (50 µH)	0103	12 mo.	
(2) SCREEN ROOM				
i00169	Lindgren 22-2/2-0	3861	N/A	none
i00170	Lindgren LG170	4999		
(3) SPECTRUM ANALYZER				
i00029	HP 8563E	3213A00104	12 mo.	Aug-00
i00033	HP 85462A	3625A00357	12 mo.	May-01
i00048	HP 8566B	2511AD1467	6 mo.	May-01

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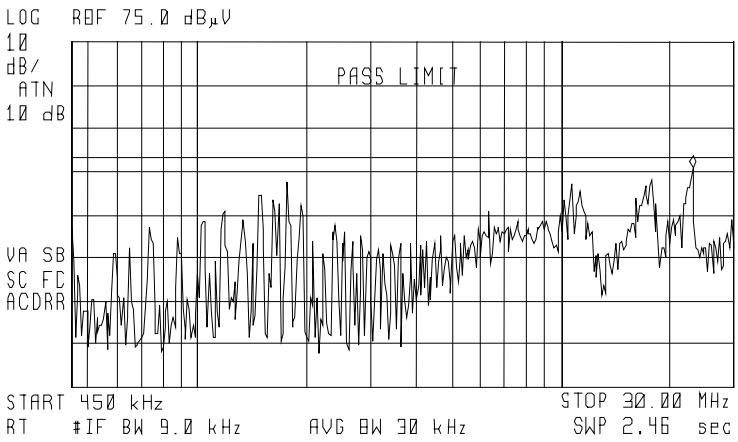
NAME OF TEST: A/C Powerline Conducted Emissions
g0170103: 2001-Jul-12 Thu 09:01:00
STATE: 0:General



NEUTRAL SIDE, UNGROUNDED
100 MB/sec Ethernet

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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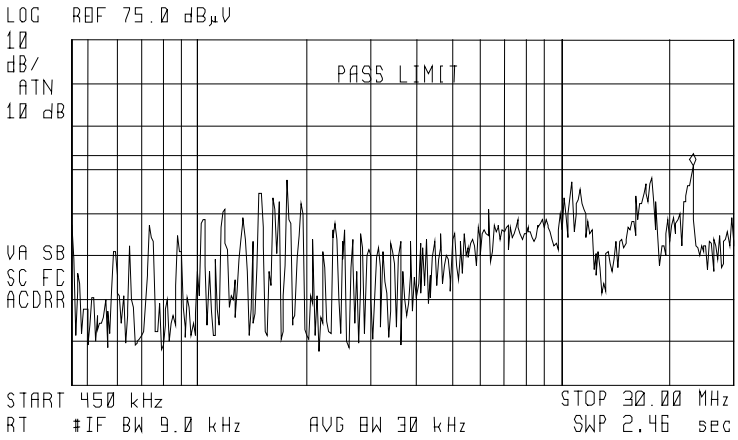
NAME OF TEST: A/C Powerline Conducted Emissions
g0170103: 2001-Jul-12 Thu 09:01:00
STATE: 0:General

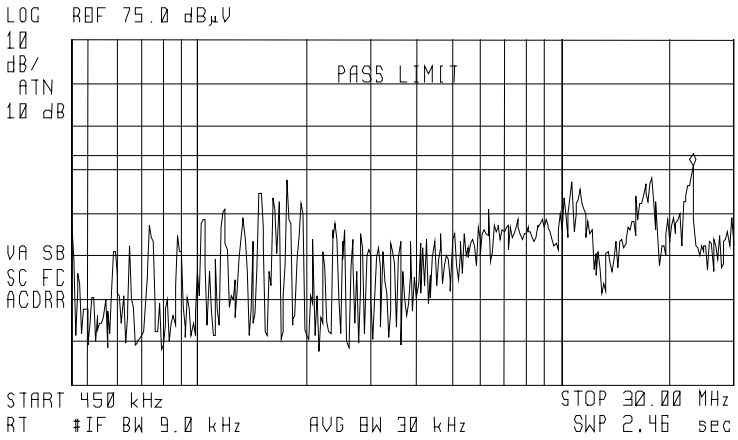


LINE SIDE, UNGROUNDED
100 MB/sec Ethernet

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

PAGE NO. 93 of 94.

NAME OF TEST: A/C Powerline Conducted Emissions
g0170103: 2001-Jul-12 Thu 09:01:00
STATE: 0:General



NEUTRAL SIDE, GROUNDED
100 MB/sec Ethernet

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

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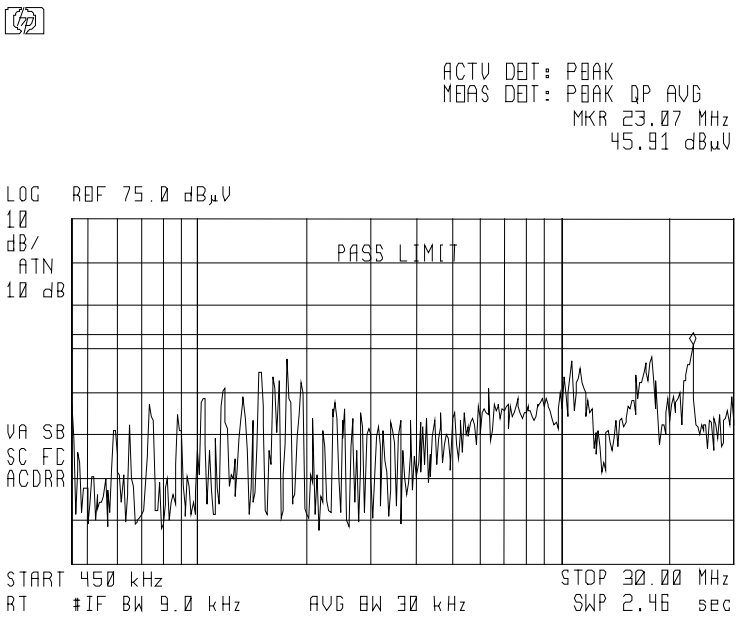
NAME OF TEST: A/C Powerline Conducted Emissions
g0170103: 2001-Jul-12 Thu 09:01:00
STATE: 0:General



LINE SIDE, GROUNDED
100 MB/sec Ethernet

PERFORMED BY: Doug Noble, B.A.S. E.E.T.

END OF TEST REPORT

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
HP8563E	Spectrum Analyzer, 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.