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: February 4, 2000

Federal Communications Commission
Via: Electronic Filing

Attention: Authorization & Evaluation Division

Applicant: Nokia Mobile Phones
Equipment: 8890, Type NSB-6NY
FCC ID: LJPNSB-6NY
FCC Rules: 24, Confidentiality

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,

William H. Graff, Director
of Engineering

enclosure(s)
cc: Applicant
WHG/cvr

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

APPLICANT: Nokia Mobile Phones

FCC ID: LJPNSB-6NY

BY APPLICANT:

1. LETTER OF AUTHORIZATION

2. IDENTIFICATION DRAWINGS, 2.1033(c)(11)
   ___ ID LABEL
   ___ LOCATION OF LABEL
   ___ COMPLIANCE STATEMENT
   ___ LOCATION OF COMPLIANCE STATEMENT

3. PHOTOGRAPHS, 2.1033(c)(12)

4. CONFIDENTIALITY REQUEST: 0.457 and 0.459

5. DOCUMENTATION: 2.1033(c)
   (3) USER MANUAL
   (9) TUNE UP INFO
   (10) SCHEMATIC DIAGRAM
   (10) CIRCUIT DESCRIPTION
   BLOCK DIAGRAM
   PARTS LIST
   ACTIVE DEVICES

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

Sub-part
2.1033(c):

EQUIPMENT IDENTIFICATION

FCC ID: LJPNSB-6NY
Serial Number: 001004300155642
MFS Number: MFA s00643

NAMEPLATE DRAWING

ATTACHED, EXHIBIT 1.

LOCATION

AS PER LABEL DRAWING(S)

DATE OF REPORT

February 4, 2000

SUPERVISED BY:

William H. Graff, Director
of Engineering

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

PAGE NO. 1 of 23.

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 85224

c) Report Number: d0020013

d) Client: Nokia Mobile Phones
Elektroniikkatie 10
Fin-90570
Oulu, Finland

e) Identification: 8890, Type NSB-6NY
FCC ID: LJPNSB-6NY
Description: PCS Band GSM Hand Held Cellular Transceiver

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

g) Report Date: February 4, 2000
EUT Received: January 31, 2000

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:

William H. Graff, Director
of Engineering

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

24, Confidentiality

Sub-part 2.1033

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

Nokia Mobile Phones
Elektroniikkatie 10
Fin-90570
Oulu, Finland

MANUFACTURER:

Nokia tmc Ltd.
Yangduck-Dong, 973-6
Hwe won-ku,Masan, Korea

(c)(2): FCC ID: LJPNSB-6NY

MODEL NO: 8890, Type NSB-6NY

(c)(3): INSTRUCTION MANUAL(S):
PLEASE SEE ATTACHED EXHIBITS

(c)(4): TYPE OF EMISSION: 256KGXW

(c)(5): FREQUENCY RANGE, MHz: 1850 to 1910

(c)(6): POWER RATING, Watts: 1.2
___ Switchable x Variable ___ N/A

FCC GRANT NOTE: BC: The output power is continuously variable from the value listed to 5%-10% of the value listed.

(c)(7): MAXIMUM POWER RATING, Watts: 2

ACCESSORIES USED DURING TESTING:

TYPE	QTY	MANUFACTURER	MODEL	Serial No.
Charger	1	Nokia	ACP-7U	
Multivoltage Switching Charger	1	Nokia	ACP-8U	00461754
Cigarette Lighter Charger	1	Nokia	LHC-9	
Desktop Stand with 1 slot	1	Nokia	DCV-1	0396 (Proto)
Headset	1	Nokia	HDC-5	
Loopset	1	Nokia	LPS-3	
Car Holster	1	Nokia	HHC-4	
Plug and Play Handsfree	1	Nokia	PPH-1	
Express Carkit	1	Nokia	CARK-119	

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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 = 3.6

(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 Guide 25-1990 "General Requirements for the Competence of Calibration and Testing Laboratories" (equivalent to relevant requirements of the ISO 9000 series of standards) and any additional program requirements in the identified field of testing.

Presented this 24th day of November, 1998.

President
For the Accreditation Council
Certificate Number 1008.01
Valid to December 31, 2000

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 GUIDE 25-1990 AND EN 45001

M. FLOM ASSOCIATES, INC.
Electronic Testing Laboratory
3356 North San Marcos Place, Suite 107
Chandler, AZ 85224-1571
Morton Flom Phone: 602 926 3100

ELECTRICAL (EMC)

Valid to: December 31, 2000 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; FCC Part 18; ICES-003; AS/NZS 1044; AS/NZS 1053; AS/NZS 3548; AS/NZS 4251.1
RF Immunity	EN 50082-1; EN 50082-2; AS/NZS 4251.1
Radiated Susceptibility	EN 61000-4-3; ENV 50140; ENV 50204; IEC 1000-4-3; IEC 801-3
ESD	EN 61000-4-2; IEC 1000-4-2; IEC 801-2
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 21704-8307 • Phone: 301 644 3200 • 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 23.

Sub-part 2.1033(c)(14): 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 2.947, 2.1033(c), 2.1041, 2.1046, 2.1047, 2.1079, 2.1051, 2.1053, 2.1055, 2.1057 and the following individual Parts:

____ 21 – Domestic Public Fixed Radio Services
____ 22 – Public Mobile Services
____ 22 Subpart H - Cellular Radiotelephone Service
____ 22.901(d) - Alternative technologies and auxiliary services
____ 23 – International Fixed Public Radiocommunication services
_x_ 24 – Personal Communications Services
____ 74 Subpart H - Low Power Auxiliary Stations
____ 80 – Stations in the Maritime Services
____ 80 Subpart E - General Technical Standards
____ 80 Subpart F - Equipment Authorization for Compulsory Ships
____ 80 Subpart K - Private Coast Stations and Marine Utility Stations
____ 80 Subpart S - Compulsory Radiotelephone Installations for Small Passenger Boats
____ 80 Subpart T - Radiotelephone Installation Required for Vessels on the Great Lakes
____ 80 Subpart U - Radiotelephone Installations Required by the Bridge-to-Bridge Act
____ 80 Subpart V - Emergency Position Indicating Radiobeacons (EPIRB'S)
____ 80 Subpart W - Global Maritime Distress and Safety System (GMDSS)
____ 80 Subpart X - Voluntary Radio Installations
____ 87 – Aviation Services
____ 90 – Private Land Mobile Radio Services
____ 94 – Private Operational-Fixed Microwave Service
____ 95 Subpart A - General Mobile Radio Service (GMRS)
____ 95 Subpart C - Radio Control (R/C) Radio Service
____ 95 Subpart D - Citizens Band (CB) Radio Service
____ 95 Subpart E - Family Radio Service
____ 95 Subpart F - Interactive Video and Data Service (IVDS)
____ 97 - Amateur Radio Service
____ 101 – Fixed Microwave Services

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.

FOR PCS EQUIPMENT:

Pursuant to Section 24.51(d), the EUT complies with IEEE C95.1-1991, "IEEE Standards for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz."

The EUT uses digital modulation, as such, measurements of the modulation characteristics are not applicable. The applicant has provided a description of the modulation particular to the EUT.

Pursuant to Section 24.238(c), the EUT was tested at it's lowest and highest possible tuned frequencies.

GUIDES:

This device was tested using the following Guide(s):

ETS 300 607-1-1998

PAGE NO. 7 of 23.

NAME OF TEST: Carrier Output Power (Radiated)

SPECIFICATION: 47 CFR 2.1046(a), 24.232(b)

GUIDE: As indicated on page 6

TEST EQUIPMENT: As per attached page

MEASUREMENT PROCEDURE (RADIATED)

1. The EUT was placed on an open-field site and its radiated field strength at a known distance was measured by means of a spectrum analyzer. Equivalent loading was calculated from the equation $P_t=((E \times R)^2/30)$ watts, where R = 3m.

2. Measurement accuracy is ±1.5 dB.

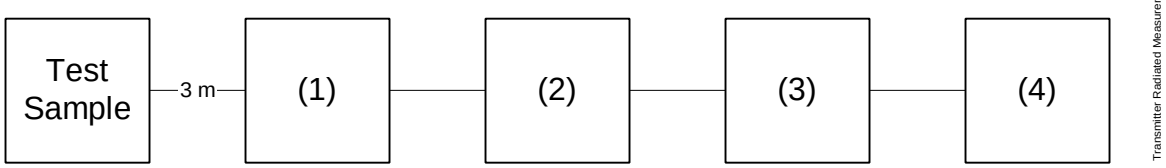
MEASUREMENT RESULTS

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	METER, dBuV/m	CF, dB	EIRP, dBm	EIRP, Watts
1850.200000	1850.236667	96.83	29.2	30.8	1.2
1880.000000	1880.030000	95.67	29.3	29.8	0.95
1909.800000	1909.713333	93.83	29.4	28	0.63

SUPERVISED BY: William H. Graff, Director of Engineering

PAGE NO. 8 of 23.

TRANSMITTER RADIATED MEASUREMENTS



Transmitter Radiated Measurements

Asset	Description (as applicable)	s/n
(1) TRANSDUCER		
i00091	Emco 3115	001469
i00089	Aprel Log Periodic	001500
(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
i00043	HP 8558B	2004A02076
i00057	HP 8557A	1531A00191
i00029	HP 8563E	3213A00104

PAGE NO. 9 of 23.

NAME OF TEST: Transmitter Conducted Measurements

SPECIFICATION: 47 CFR 2.1051: Unwanted (spurious) Emissions
2.1049(c), 24.238(b): Occupied Bandwidth
24: Emissions at Band Edges

GUIDE: As indicated on page 6

TEST EQUIPMENT: As per attached page

MEASUREMENT PROCEDURE

1. The EUT and test equipment were set up as shown on the following page with the Spectrum Analyzer connected.

2. The low and high channels for all RF powers within the designated frequency block(s) were measured.

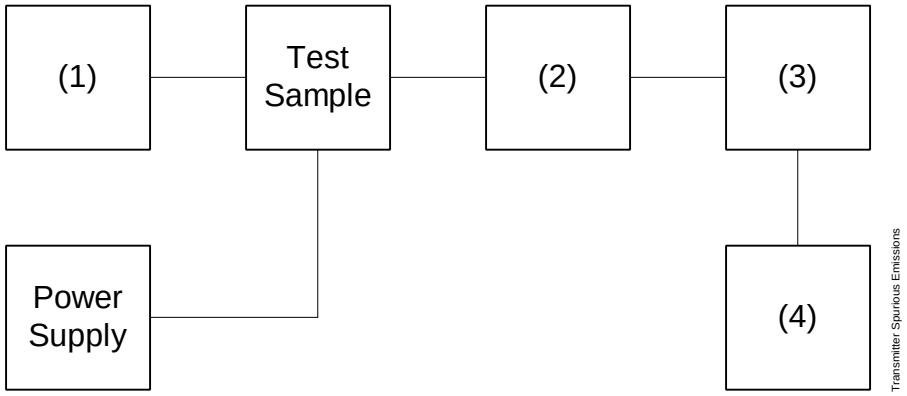
3. MEASUREMENT RESULTS: ATTACHED

SUPERVISED BY: William H. Graff, Director of Engineering

PAGE NO. 10 of 23.

TRANSMITTER SPURIOUS EMISSION

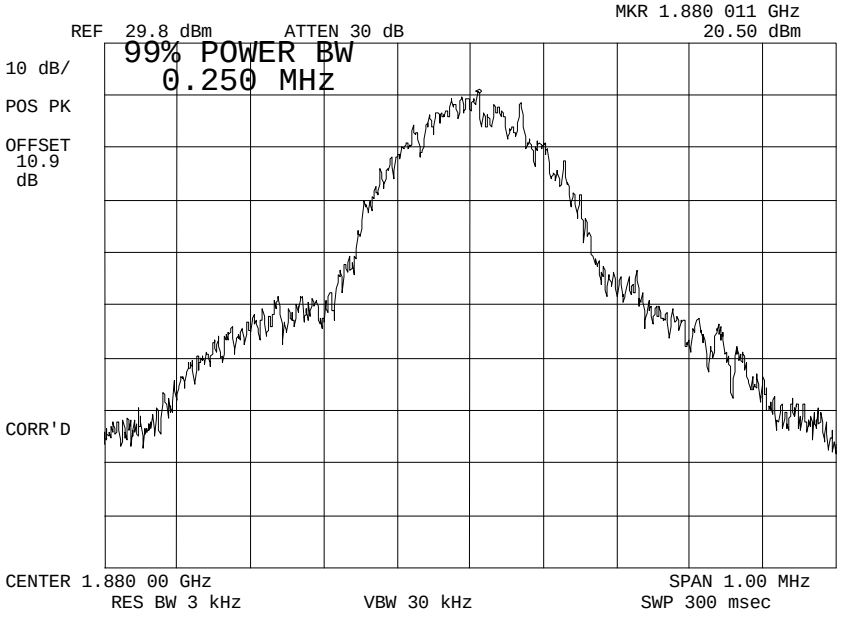
TEST A. OCCUPIED BANDWIDTH (IN-BAND SPURIOUS)
TEST B. OUT-OF-BAND SPURIOUS



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

PAGE NO. 11 of 23.

NAME OF TEST: Emission Masks (Occupied Bandwidth)
g0010330: 2000-Jan-31 Mon 11:30:00
STATE: 2:High Power

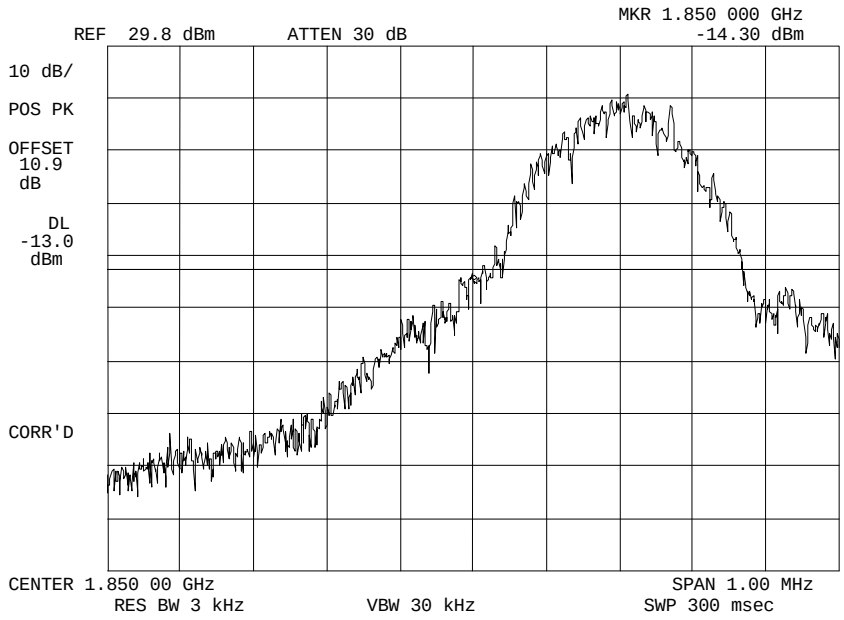


POWER: HIGH
MODULATION: GSM 1900
99 % POWER BANDWIDTH

SUPERVISED BY: William H. Graff, Director of Engineering

PAGE NO. 12 of 23.

NAME OF TEST: Emission Masks (Occupied Bandwidth)
g0010333: 2000-Jan-31 Mon 11:56:00
STATE: 2:High Power

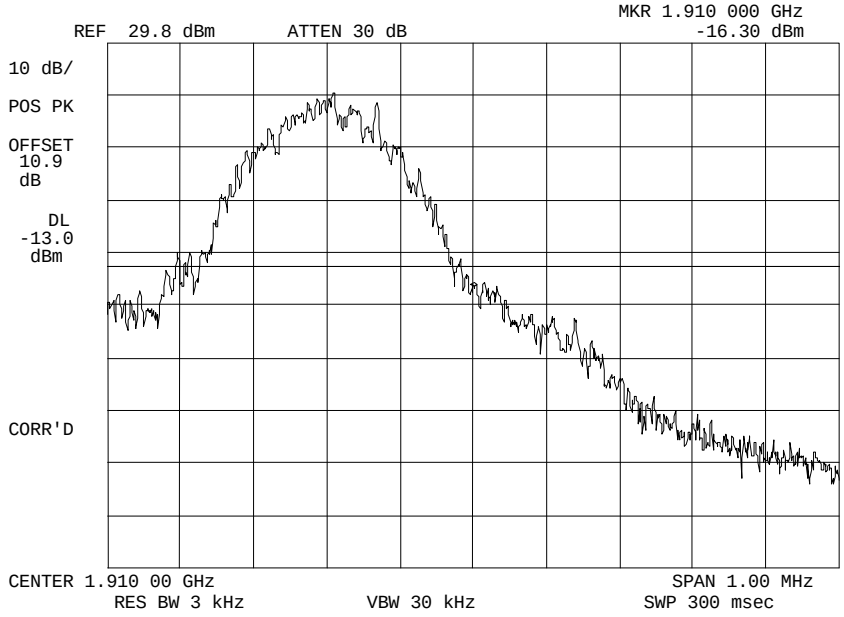


POWER: HIGH
MODULATION: GSM 1900
LOWER BANDEDGE CHANNEL 512

SUPERVISED BY: William H. Graff, Director of Engineering

PAGE NO. 13 of 23.

NAME OF TEST: Emission Masks (Occupied Bandwidth)
g0010331: 2000-Jan-31 Mon 11:34:00
STATE: 2:High Power



POWER: HIGH
MODULATION: GSM 1900
UPPER BANDEDGE CHANNEL 810

SUPERVISED BY: William H. Graff, Director of Engineering

PAGE NO. 14 of 23.

NAME OF TEST: Field Strength of Spurious Radiation

SPECIFICATION: 47 CFR 2.1053(a)

GUIDE: As indicated on page 6

TEST EQUIPMENT: As per attached page

MEASUREMENT PROCEDURE

1. A description of the measurement facilities was filed with the FCC and was found to be in compliance with the requirements of Section 15.38, by letter from the FCC dated March 3, 1997, FILE 31040/SIT. All pertinent changes will be reported to the Commission by up-date prior to March 2000.

2. At first, in order to locate all spurious frequencies and approximate amplitudes, and to determine proper equipment functioning, the test sample was set up at a distance of three meters from the test instrument. Valid spurious signals were determined by switching the power on and off.

3. In the field, the test sample was placed on a wooden turntable above ground at three (or thirty) meters away from the search antenna. Excess power leads were coiled near the power supply.

   The cables were oriented in order to obtain the maximum response. At each emission frequency, the turntable was rotated and the search antennas were raised and lowered vertically.

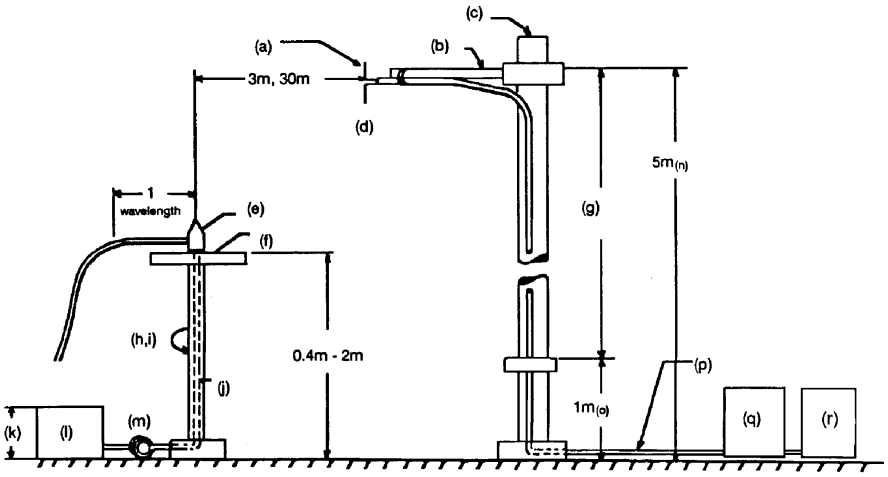
4. The emission was observed with both a vertically polarized and a horizontally polarized search antenna and the worst case was used.

6. The field strength of each emission within 20 dB of the limit was recorded and corrected with the appropriate cable and transducer factors.

7. The worst case for all channels is shown.

8. Measurement results: ATTACHED FOR WORST CASE

RADIATED TEST SETUP



NOTES:

(a) Search Antenna - Rotatable on boom
(b) Non-metallic boom
(c) Non-metallic mast
(d) Adjustable horizontally
(e) Equipment Under Test
(f) Turntable
(g) Boom adjustable in height.
(h) External control cables routed horizontally at least one wavelength.
(i) Rotatable
(j) Cables routed through hollow turntable center
(k) 30 cm or less
(l) External power source
(m) 10 cm diameter coil of excess cable
(n) 25 cm (V), 1 m-7 m (V, H)
(o) 25 cm from bottom end of 'V', 1m normally
(p) Calibrated Cable at least 10m in length
(q) Amplifier (optional)
(r) Spectrum Analyzer

Asset	Description (as applicable)	s/n	Cycle (Per ANSI C63.4-1992, 10.1.4)	Last Cal
TRANSDUCER				
i00088	EMCO 3109-B 25MHz-300MHz	2336	12 mo.	Sep-99
i00089	Aprel 2001 200MHz-1GHz	001500	12 mo.	Sep-99
i00103	EMCO 3115 1GHz-18GHz	9208-3925	12 mo.	Sep-99
i00065	EMCO 3301-B Active Monopole	2635	12 mo.	Sep-99
AMPLIFIER				
i00028	HP 8449A	2749A00121	12 mo.	Mar-99
SPECTRUM ANALYZER				
i00029	HP 8563E	3213A00104	12 mo.	Aug-99
i00033	HP 85462A	3625A00357	12 mo.	May-99
i00048	HP 8566B	2511AD1467	6 mo.	May-99

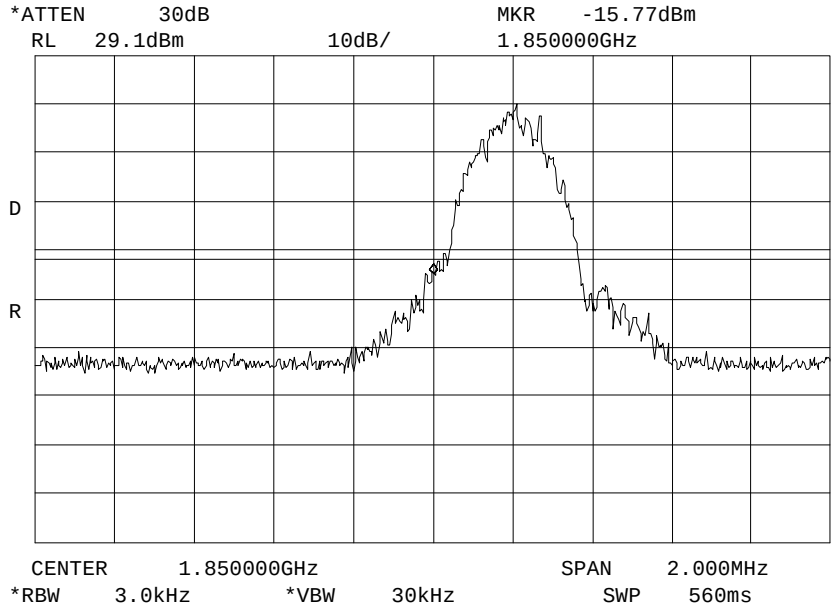
PAGE NO. 16 of 23.

NAME OF TEST: Field Strength of Spurious Radiation
g0010334: 2000-Jan-31 Mon 10:57:00
STATE: 2:High Power

FREQUENCY TUNED, MHz	FREQUENCY EMISSION, MHz	METER, dBuV	CF, dB	EIRP, dBm	MARGIN, dB
1850.200000	3700.500000	62.17	5.14	-27.9	-14.9
1880.000000	3760.010000	35.67	35.3	-24.3	-11.2
1909.800000	3819.600000	66.5	5.45	-23.3	-10.3
1850.200000	5550.600000	45.17	8.79	-41.3	-28.2
1880.000000	5639.850000	23	38.95	-33.3	-20.3
1909.800000	5729.213333	51	9.12	-35.1	-22.1
1850.200000	7400.663333	39.67	12.57	-43	-30
1880.000000	7520.000000	20.83	42.52	-31.9	-18.9
1909.800000	7639.200000	31.83	12.48	-50.9	-37.9
1850.200000	9251.000000	39.17	13.91	-42.1	-29.1
1880.000000	9400.000000	26.17	44.74	-24.3	-11.3
1909.800000	9549.000000	34	15.54	-45.7	-32.7
1850.200000	11101.200000	34.33	14.63	-46.3	-33.2
1880.000000	11280.000000	21.33	44.67	-29.2	-16.2
1909.800000	11458.800000	32.17	14.7	-48.4	-35.3
1850.200000	12951.400000	31.5	17.76	-46	-32.9
1880.000000	13160.000000	21.67	47.85	-25.7	-12.7
1909.800000	13368.600000	34.5	17.78	-42.9	-29.9
1850.200000	14801.600000	34	15.5	-45.7	-32.7
1880.000000	15040.000000	26	45.07	-24.2	-11.1
1909.800000	15278.400000	32.5	15.5	-47.2	-34.2
1850.200000	16651.800000	32.33	19.39	-43.5	-30.5
1880.000000	16920.000000	23.67	50.43	-21.1	-8.1
1909.800000	17188.200000	30.83	20.96	-43.4	-30.4

PAGE NO. 17 of 23.

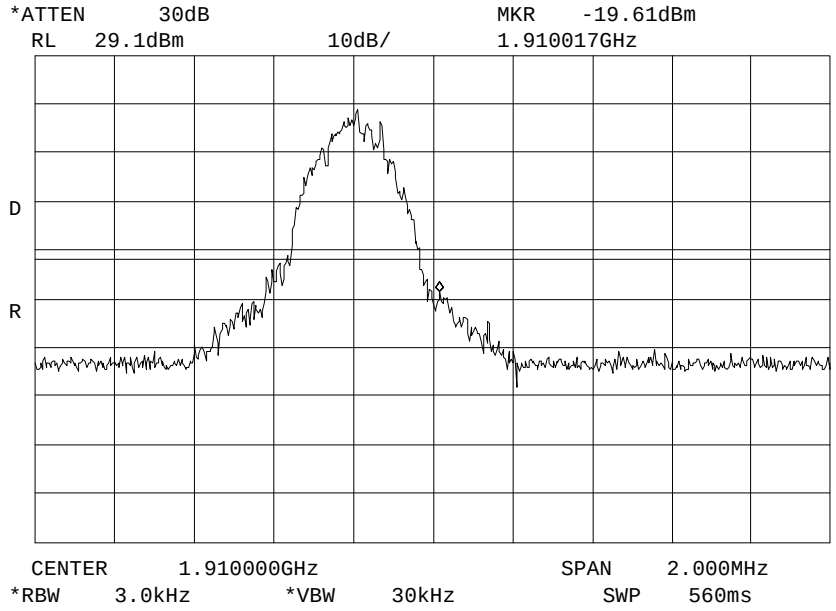
NAME OF TEST: Emissions – Radiated Band Edge
g0020010: 2000-Feb-01 Tue 14:12:00
STATE: 0:General



SUPERVISED BY: William H. Graff, Director of Engineering

PAGE NO. 18 of 23.

NAME OF TEST: Emissions – Radiated Band Edge
g0020012: 2000-Feb-01 Tue 14:25:00
STATE: 0:General



SUPERVISED BY: William H. Graff, Director of Engineering

PAGE NO. 19 of 23.

NAME OF TEST: Frequency Stability (Temperature Variation)

SPECIFICATION: 47 CFR 2.1055(a)(1), 24.235

GUIDE: As indicated on page 6

TEST CONDITIONS: As Indicated

TEST EQUIPMENT: As per previous page

MEASUREMENT PROCEDURE

1. The EUT and test equipment were set up as shown on the following page.

2. With all power removed, the temperature was decreased to -30°C and permitted to stabilize for three hours. Power was applied and the maximum change in frequency was noted within one minute.

3. With power OFF, the temperature was raised in 10°C steps. The sample was permitted to stabilize at each step for at least one-half hour. Power was applied and the maximum frequency change was noted within one minute.

4. The temperature tests were performed for the worst case.

5. MEASUREMENT RESULTS: ATTACHED

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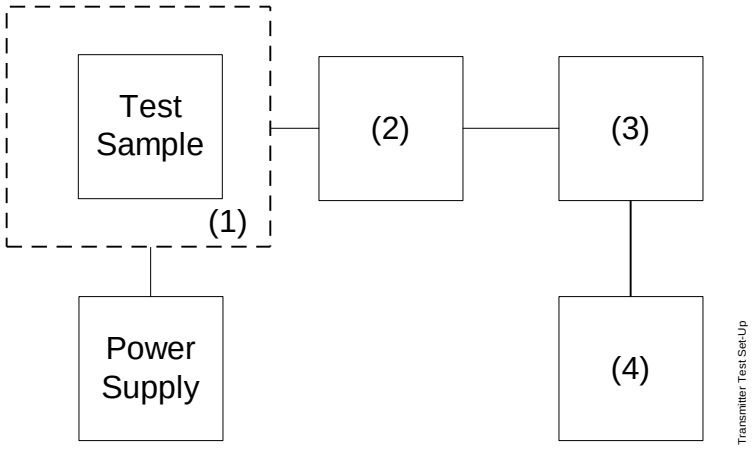
TRANSMITTER TEST SET-UP

TEST A. OPERATIONAL STABILITY
TEST B. CARRIER FREQUENCY STABILITY
TEST C. OPERATIONAL PERFORMANCE STABILITY
TEST D. HUMIDITY
TEST E. VIBRATION
TEST F. ENVIRONMENTAL TEMPERATURE
TEST G. FREQUENCY STABILITY: TEMPERATURE VARIATION
TEST H. FREQUENCY STABILITY: VOLTAGE VARIATION



Transmitter Test Set-Up

Asset	Description (as applicable)	s/n
(1)	TEMPERATURE, HUMIDITY, VIBRATION	
i00027	Tenney Temp. Chamber	9083-765-234
i00	Weber Humidity Chamber	
i00	L.A.B. RVH 18-100	
(2)	COAXIAL ATTENUATOR	
i00122	NARDA 766-10	7802
i00123	NARDA 766-10	7802A
i00113	SIERRA 661A-3D	1059
i00069	BIRD 8329 (30 dB)	10066
(3)	R.F. POWER	
i00014	HP 435A POWER METER	1733A05839
i00039	HP 436A POWER METER	2709A26776
i00020	HP 8901A POWER MODE	2105A01087
(4)	FREQUENCY COUNTER	
i00042	HP 5383A	1628A00959
i00019	HP 5334B	2704A00347
i00020	HP 8901A	2105A01087

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NAME OF TEST: Frequency Stability (Temperature Variation)

STATE: Subscriber equipment is synchronized to base station frequency. No variance in transmitter frequency stability observed under any variation of temperature and/or voltage.

°C	Change, kHz	Change, ppm
-30	0.00	0.0
-20	0.00	0.0
-10	0.00	0.0
0	0.00	0.0
10	0.00	0.0
20	0.00	0.0
25	0.00	0.0
30	0.00	0.0
40	0.00	0.0
50	0.00	0.0
60	0.00	0.0

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NAME OF TEST: Frequency Stability (Voltage Variation)

SPECIFICATION: 47 CFR 2.1055(b)(1)

GUIDE: As indicated on page 6

TEST EQUIPMENT: As per previous page

MEASUREMENT PROCEDURE

1. The EUT was placed in a temperature chamber at 25±5°C and connected as for "Frequency Stability - Temperature Variation" test.

2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.

3. The variation in frequency was measured for the worst case.

RESULTS: Frequency Stability (Voltage Variation)

STATE:

LIMIT: Must remain within authorized frequency block.

BATTERY END POINT (Voltage) = 3.1

% of STV	Voltage	Frequency, MHz	Change, kHz	Change, ppm
85	3.3	1880	0.00	0.0
100	3.9	1880	0.00	0.0
115	4.5	1880	0.00	0.0
B.E.P.	3.1	1880	0.00	0.0

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NAME OF TEST: Necessary Bandwidth and Emission Bandwidth

SPECIFICATION: 47 CFR 2.202(g)

MODULATION = 256KGXW

NECESSARY BANDWIDTH:

NECESSARY BANDWIDTH (B_N), kHz = 256

(measured at the 99.75% power bandwidth)

SUPERVISED BY: William H. Graff, Director of Engineering

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: William H. Graff, Director of Engineering