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RSS-125
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Spectrum Management and Telecommunications Policy

Radio Standards Specification

Land Mobile and Fixed Radio Transmitters and Receivers, 1.705 to 50 MHz, Primarily Amplitude Modulated

Canada

Aussi disponible en français - CNR-125

PREFACE

This Revision 1 of Issue 2 replaces Issue 2 of RSS-125, dated 24 August 1996.

Changes

The following is the main change:

1. Evaluation of Exposure of Humans to RF Fields is required (i.e. section 9.0 is added).

The requirement referred to in section 9.0 on Exposure of Humans to RF Fields became effective on the date of publication of RSS-102 which is September 25, 1999 (see the Standard RSS-102).

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Table of contents

	<u>PAGE</u>
Preface.....	i
1.0 SCOPE.....	1
2.0 GENERAL.....	1
2.1 Periodic Testing.....	1
2.2 Inquiries About This Standard.....	1
3.0 RELATED DOCUMENTS.....	2
4.0 TEST INSTRUMENTS.....	2
5.0 EQUIPMENT REQUIREMENTS.....	2
5.1 Equipment Labels.....	2
5.2 Transmitter External Controls.....	3
5.3 Supply Voltage and Temperature.....	3
5.4 Typical Output Powers.....	4
5.5 Allocated Bands and Bandwidths.....	4
5.6 Types of Modulations.....	6
5.7 New Technologies.....	7
6.0 TRANSMITTER STANDARDS AND TESTS.....	7
6.1 Testing Methods.....	7
6.2 Output Power and Frequency Range.....	8
6.3 Unwanted Emissions.....	10
7.0 FREQUENCY STABILITY.....	12
8.0 RECEIVER SPURIOUS EMISSIONS.....	14
9.0 EXPOSURE OF HUMANS TO RF FIELDS.....	15
10.0 LICENSING CONSIDERATIONS.....	15
11.0 EQUIPMENT CERTIFICATION AND TEST REPORT SUBMISSION...	15

**LANDMOBILE AND FIXED RADIO TRANSMITTERS AND RECEIVERS,
1.705 TO 50.0 MHZ, PRIMARILY AMPLITUDE MODULATED**

1.0 SCOPE

- 1.1 This document sets out standards for radio equipment for the landmobile and fixed services employing primarily single sideband (SSB) amplitude modulation in certain allocated bands within the 1.705 - 28 MHz band, and double sideband amplitude modulation within the 27.41 - 50 MHz band. Other type of modulations (e.g. digital modulations) are also permitted in the 1.705 - 28 MHz band.

A technical acceptance certificate (TAC) is required, pursuant to section 4(2) of the Radiocommunication Act. Before certification is granted, the applicant must show that the applicable standards have been complied with.

- 1.2 The equipment is subject to licensing, pursuant to section 4(1) of the Radiocommunication Act.

2.0 GENERAL

- 2.1 **Periodic Testing:** Periodic testing shall be carried out by the manufacturer or importer to ensure continuing compliance with the standard. Non-compliance problems shall be corrected by the manufacturer or importer. Industry Canada (the Department) will conduct audit checks from time to time to ensure compliance.
- 2.2 **Inquiries About This Standard:** Inquiries about this Standard may be directed to Industry Canada's local offices or to:

Manager, Radio Equipment Standards
Industry Canada
300 Slater Street, Ottawa, Canada, K1A 0C8
Tel: (613) 990-4699/Fax: (613) 990-3158.
Internet: Lum.kwai@ic.gc.ca

However, inquiries concerning equipment certification matters should be directed to Chief, Certification and Engineering Bureau; see address in section 11.

3.0 RELATED DOCUMENTS

The following are related documents. RSP-100 and TRC-49 provide guidance when applying for equipment certification.

If the radio equipment is intended for connection to a public switched telecommunication network, the device shall also comply with the standard CS-03 and be certified under the Terminal Attachment Program procedure CP-01 as well as under the radio equipment certification procedure RSP-100.

- 3.1 RSP-100: "Radio Equipment Certification Procedure".
- 3.2 TRC-49: "Certification Service Fees".
- 3.3 CP-01: "Procedure To Obtain Certification For Terminal Equipment."
- 3.4 CS-03: "Certification Standard For Terminal Equipment".
- 3.5 RSS-102 "Evaluation Procedure for Mobile and Portable Radio Transmitters with respect to Health Canada's Safety Code 6 for Exposure of Humans to Radio Frequency Fields"

Industry Canada documents are available in English and French on the Internet at:

<http://strategis.ic.gc.ca/spectrum> (English)
<http://strategis.ic.gc.ca/spectre> (French)

For assistance regarding this web site, please contact: DOSP-P, 300 Slater Street, Ottawa, Ontario, Canada K1A 0C8, tel.: 613-990-4761, fax: 613-952-9871, e-mail: spectrum_pubs@ic.gc.ca.

4.0 TEST INSTRUMENTS

The test report shall list all test instrument used. The list shall identify instruments by manufacturer's type and model numbers.

5.0 EQUIPMENT REQUIREMENTS

- 5.1 Equipment Labels: Equipment that is certified under this RSS shall be permanently labelled on each item or inseparable combination. The label shall contain the following:

- (a) The certification number prefixed by the name "Canada".
- (b) Manufacturer's name or trade name or brand name.
- (c) A model name or number.

Equipment for which a certificate has been issued is not considered certified if it is not properly labelled.

- 5.2 **Transmitter External Controls**: The transmitter shall not have any external controls accessible to the user that can be adjusted and operated in violation of this Standard. A high/low power switch is however permitted.

To prevent radio interference caused by end-users' (operators') transmissions in unauthorized frequencies the following measures are instituted:

- (a) Users of transmitters with external frequency selection controls shall not be able to operate on channels other than those for which the apparatus has been preset by the manufacturer, equipment supplier or service/maintenance personnel.
- (b) Transmitters having frequency programming capability are exempt from clause (a) if the design of such transmitters:
 - (1) Is such that transmitters with external controls normally available to the operator must be internally modified to place the equipment in the programmable mode. Further, while in the programmable mode, the equipment shall not be capable of transmitting. The procedures for making the modification and altering the frequency program shall NOT be made available to the end user of the equipment; or
 - (2) Requires the transmitter to be programmed for frequencies through controls normally inaccessible to the operator; or
 - (3) Requires equipment to be programmed for frequencies through use of external devices or specifically programmed modules made available only to service/maintenance personnel; or
 - (4) Requires equipment to be programmed through cloning (copying a program directly from another transmitter) using devices and procedures made available only to service/maintenance personnel.

- 5.3 **Supply Voltage and Temperature**: Tests shall be performed at ambient temperature and at the manufacturer's rated supply

voltage except for the frequency stability test. The test voltage shall be stated in the test report.

- 5.4 **Typical Output Powers:** The following are typical maximum transmitter output powers but higher powers may be certified. However, it should be noted that mobile stations above 30 MHz are normally only licensed up to 30 watts.

- (a) For SSB (1.705-28 MHz): 1.0 kilowatt peak envelope power (P_{pk}) (base station), 100 watts P_{pk} (mobile stations).
- (b) For DSB (27.41-30 MHz): mean output power:
 in urban areas: 100 watts (base stations),
 60 watts (mobile stations).
 in rural areas: 350 watts (base stations),
 100 watts (mobile stations).
- (c) For DSB (30-50 MHz): 110 watts (base stations),
 30 watts (mobile stations).

- 5.5 **Allocated Bands and Bandwidths:** The Allocated Bands, Authorized Bandwidth, Channel Spacing and Service Categories for the Mobile and Fixed Services are given in Table 1 below:

Table 1

Band Edges (MHz)	Auth. Bandw. (kHz)	Channel Spacing (kHz)	Type of Modul.	Service Category
1.705 -1.800	3	N/A(not appl.)	SSB	FIXED, MOBILE (both Primary)
2.00 - 2.065	3	N/A	SSB	FIXED, MOBILE (both Primary)
2.107 -2.17	3	N/A	SSB	FIXED, MOBILE (both Primary)
2.194 - 2.495	3	N/A	SSB	FIXED, MOBILE (both Primary)
2.505 - 2.85	3	N/A	SSB	FIXED, MOBILE (both Primary)

Band Edges (MHz)	Auth. Bandw. (kHz)	Channel Spacing (kHz)	Type of Modul.	Service Category
3.155 - 3.4	3	N/A	SSB	FIXED, MOBILE (both Primary)
4.0 - 4.063	3	N/A	SSB	FIXED
4.438 - 4.65	3	N/A	SSB	FIXED, MOBILE (both Primary)
4.75 - 4.995	3	N/A	SSB	FIXED, MOBILE (both Primary)
5.005 - 5.06	3	N/A	SSB	FIXED
5.06 - 5.25	3	N/A	SSB	FIXED (Primary), Mobile (Secondary)
5.25 - 5.45	3	N/A	SSB	FIXED, MOBILE (both Primary)
5.73 - 5.95	3	N/A	SSB	FIXED, MOBILE (both Primary)
6.765 - 7.0	3	N/A	SSB	FIXED (Primary), Mobile (Secondary)
7.3 - 8.1	3	N/A	SSB	FIXED (Primary), Mobile (Secondary)
8.1 - 8.195	3	N/A	SSB	FIXED
9.04 - 9.5	3	N/A	SSB	FIXED
9.9 - 9.995	3	N/A	SSB	FIXED
10.15 - 11.175	3	N/A	SSB	FIXED (Primary), Mobile (Secondary)
11.4 - 11.65	3	N/A	SSB	FIXED
12.05 - 12.23	3	N/A	SSB	FIXED
13.36 - 13.41	3	N/A	SSB	FIXED
13.41 - 13.6	3	N/A	SSB	FIXED, MOBILE (both Primary)

Band Edges (MHz)	Auth. Bandw. (kHz)	Channel Spacing (kHz)	Type of Modul.	Service Category
13.8 - 14.0	3	N/A	SSB	FIXED (Primary), Mobile (Secondary)
14.35 - 14.99	3	N/A	SSB	FIXED (Primary), Mobile (Secondary)
15.6 - 16.36	3	N/A	SSB	FIXED
17.41 - 17.55	3	N/A	SSB	FIXED
18.03 - 18.068	3	N/A	SSB	FIXED
18.168 - 18.78	3	N/A	SSB	FIXED
18.9 - 19.68	3	N/A	SSB	FIXED
19.8 - 19.99	3	N/A	SSB	FIXED
20.01 - 21.0	3	N/A	SSB	FIXED (Primary), Mobile (Secondary)
21.85 - 21.87	3	N/A	SSB	FIXED
22.885 - 23.0	3	N/A	SSB	FIXED
23.0 - 23.2	3	N/A	SSB	FIXED (Primary), Mobile (Secondary)
23.35 - 24.89	3	N/A	SSB	FIXED, MOBILE (both Primary)
25.01 - 25.07	3	N/A	SSB	FIXED, MOBILE (both Primary)
25.21 - 25.55	3	N/A	SSB	FIXED, MOBILE (both Primary)
26.175 - 27.5	3	N/A	SSB	FIXED, MOBILE (both Primary)

Band Edges (MHz)	Auth. Bandw. (kHz)	Channel Spacing (kHz)	Type of Modul.	Service Category
26.96 - 27.41	3 for SSB 8 for DSB	10	SSB and DSB	General Radio Service licence-exempt, RSS-136 applies, not this RSS-125
27.5 - 28.0	3 for SSB 8 for DSB	20	SSB and DSB	Fixed (Secondary), MOBILE (Primary)
29.7 - 50.0	8	20	DSB	Fixed (Secondary), MOBILE (Primary)

The bands in Table 1 are not channelized and licence frequencies are assigned by the local Industry Canada Office, based on records of existing stations and on monitoring station reports.

- 5.6 **Types of Modulations:** The test methods described in this RSS apply to amplitude modulations of designators J3E, R3E, H3E and A3E. Other modulations such as digital modulations (J2A, J2B, J2C, J3C, H2A and H2B as well as A1A, A1B, A2A and A2B) are also permitted in the band 1.705 - 28.000 MHz provided that the transmitter spectrum complies with the Minimum Standards of sections 6.3.1 and 6.3.2.

Note: Standards for modulations other than DSB for the band 27.41-50 MHz, i.e. digital and FM modulations, are given in the document RSS-119.

- 5.7 **New Technologies:** Systems that cannot conform to this Standard, especially those using new technologies, may be evaluated on a case-by-case basis by the Manager, Radio Equipment Standards.

6.0 **TRANSMITTER STANDARDS AND TESTS**

6.1 **Testing Methods:**

- (a) Tests are to be conducted in accordance with good engineering practices.
- (b) Test results are to be presented in graphical form wherever

possible. The graph shall also include the specification limits.

- (c) Associated equipment that is normally used with the equipment shall be so connected.
- (d) If the RF output power is internally adjustable or remotely controllable, set or control it to the maximum rated power of the range for which equipment certification is sought.
- (e) The transmitter shall be modulated with signals representative of those encountered in a real system operation.
- (f) If in measuring emission power the spectrum analyzer selectivity is insufficient, a resolution bandwidth narrower than that specified, plus numerical integration to sum the power, is permitted. The method used shall be described in the test report.
- (g) When the antenna is detachable, the transmitter output power may be measured by replacing the antenna with a spectrum analyzer of internal resistance equal to the impedance specified for the antenna. Alternatively, impedance matching can be used with the network loss accounted for.

When the antenna is not detachable, field strength measurement should be made using a calibrated open area test site. A description of the method of measurement that is acceptable to Industry Canada is found in RSS-212.

The following formula may be used to convert field strength (FS) in volts/metre to transmitter output power (TP) in watts:

$$TP = (FS \times D)^2 / (30 \times G),$$

where D is the distance in metres between the two antennas and G is the antenna numerical gain referenced to isotropic gain.

- (h) Where a test method specified in this document cannot be followed, an alternative appropriate method may be used provided that it is fully described in the test report.
- (i) If the transmitter is capable of tuning over more than one frequency band of Table 1, testing at more than one test carrier frequency may be required to verify any change in RF characteristics.

6.2 Output Power And Frequency Range:

Verify and report the range of assignable carrier frequencies of the device. The method used for the verification should be described.

6.2.1 Peak Envelope Power (P_{pk}) of J3E (Upper Single Sideband Suppressed Carrier) And R3E (SSB Reduced Carrier)

The maximum output power of the transmitter is to be determined. This is the power at which the intermodulation (I.M.) product is 25 dB below a sideband level (equivalent to 31 dB below peak envelope power P_{pk}).

Connect a spectrum analyzer to the output of the transmitter as described in 6.1. Set it to peak detector mode and to a narrowband resolution bandwidth, e.g. 300 Hz.

Connect two audio tone generators with frequencies $f_1 = 400$ Hz and $f_2 = 1800$ Hz to the transmitter modulator input port (via suitable combining networks) so adjusted that the two principal RF components produced are equal in magnitude ($V_{t1} = V_{t2} = V_t$).

Increase equally the audio signal levels until the higher level third-order difference frequency (i.e. $2f_{SB1} - f_{SB2}$ or $2f_{SB2} - f_{SB1}$) intermodulation product (observed on the spectrum analyzer) is 25 dB below either of the sideband level. Record both I.M. product levels and frequencies.

Note: $f_{SB1} = f_c + f_1$ and $f_{SB2} = f_c + f_2$, (i.e. only upper sideband is permitted).

Increase the analyzer resolution bandwidth to wideband or at least wider than the authorized bandwidth of Table 1. The video bandwidth should also be wideband, at least 3 times the resolution bandwidth.

Measure and record the power which is the peak envelope power (P_{pk}).

Turn off the audio tone generators. Measure and record the level of the residual carrier power (P_c).

Minimum Standard: The manufacturer's rated peak envelope output power must not be higher than the measured P_{pk} .

The following will be the equipment classifications:

J3E : 30 dB or more carrier suppression ($P_{pk} - P_c \geq 30$ dB);

R3E : Less than 30 dB in carrier suppression.

6.2.2 Peak Envelope Power of Upper Single Sideband H3E (Full Carrier SSB)

The maximum output power of the transmitter is to be determined.

Connect a spectrum analyzer to the output of the transmitter as described in 6.1 above. Set it to peak detector mode and to narrowband resolution bandwidth, e.g. 300 Hz.

Connect an audio tone generator with a frequency of 1500 Hz to the transmitter modulator input port.

Increase the audio signal level until the sideband power (P_t) and the carrier power (P_c) are equal or until the third-order difference frequency (i.e. $2f_{sb} - f_c$ where $f_{sb} = f_c + 1500$ Hz) intermodulation product (observed on the spectrum analyzer) is 25 dB below the sideband level.

Increase the analyzer resolution bandwidth to wideband or at least wider than the authorized bandwidth of Table 1. The video bandwidth should also be wideband, at least 3 times the resolution bandwidth.

Measure and record the power which is the peak envelope power (P_{pk}).

Minimum Standard: The manufacturer's rated peak envelope output power must not be higher than the measured P_{pk} .

6.2.3 Mean Power of A3E (Double Sideband AM)

The maximum output power of the transmitter shall be determined.

Connect a spectrum analyzer to the output of the transmitter as described in section 6.1. Set it to averaging detector mode and narrowband resolution bandwidth, e.g. 300 Hz.

Connect an audio tone generator with a frequency of 2500 Hz to the transmitter modulator input port.

Adjust the level of the audio tone generator to obtain two equal RF sidebands, each 6 dB below the carrier level, as measured by a spectrum analyzer.

Increase the spectrum analyzer to wideband resolution bandwidth to capture the carrier and sidebands powers.

Measure and record the mean output power P_{mean} .

Minimum Standard: The manufacturer's rated mean output power must not be higher than the measured power P_{mean} .

- 6.3 **Unwanted Emissions:** The unwanted emissions comprise of out-of-band emissions in the vicinity of the passband, spurious emissions and harmonics.

6.3.1 **Unwanted Emissions of J3E, R3E and H3E**

Adjust the transmitter to the manufacturer's rated output power before performing the other test below.

Connect the equipment as in 6.2.1 (Peak Envelope Power Test) for J3E and R3E emission categories, and as in 6.2.2 for the H3E category.

Adjust the levels of audio tone generators ($V_{t1} = V_{t2}$) to a level 10 dB higher than that is necessary to produce rated P_{pk} .

Minimum Standard: The power of unwanted emissions shall be attenuated below the transmitter peak envelope power in accordance with the following schedule:

(i) on any frequency removed from the assigned frequency by more than 50% (i.e.: outside the band $f_c - 0.1 \text{ kHz}$ to $f_c + 2.9 \text{ kHz}$ *) and up to and including 150% of the authorized bandwidth: at least 25 dB, measured with a resolution bandwidth of 300 Hz.

(* Note: the spectrum analyzer centre frequency corresponds to $f_c - 0.25 \text{ kHz}$ and $f_c + 3.05 \text{ kHz}$ at the edges of the band).

(ii) on any frequency removed from the assigned frequency by more than 150% and up to and including 250% of the authorized

bandwidth: at least 35 dB, measured with a resolution bandwidth of 300 Hz.

(iii) in any 30 kHz band removed from the assigned frequency by more than 250% of the authorized bandwidth: at least $43 + 10 \cdot \log(P_{pk})$ or 70 dB. The search for unwanted emissions shall be from the lowest frequency internally generated or used in the device (local oscillator, intermediate or carrier frequency) or 100 kHz below its lowest assignable frequency, whichever is the lowest frequency, to the 5th harmonic of the highest frequency generated or used without exceeding 23 GHz.

Note: The assigned frequency = $f_c + 1.4$ kHz

6.3.2 Unwanted Emissions of A3E

Adjust the equipment to the manufacturer's rated output power before performing the test below.

Connect the equipment as in 6.2.3 (Mean Output Power Test).

Adjust the level of the audio tone generator until the two RF sideband powers are each 12 dB below the carrier level, i.e. the modulation index is 50%.

Increase the voltage of the audio tone generator by 16 dB.

Minimum Standard: The power of emissions shall be attenuated below the transmitter mean power (P_{mean}) in accordance with the following schedule:

(i) on any frequency removed from the carrier frequency by more than 50% and up to and including 150% of the authorized bandwidth: at least 25 dB, measured with a resolution bandwidth of 300 Hz;

(ii) on any frequency removed from the carrier frequency by more than 150% and up to and including 250% of the authorized bandwidth: at least 35 dB, measured with a resolution bandwidth of 300 Hz;

(iii) in any 30 kHz band removed from the carrier frequency by more than 250% of the authorized bandwidth: at least $43 + 10 \cdot \log(P_{mean})$ or 70 dB. The search for unwanted emissions shall be from the lowest frequency internally generated or used in the

device (local oscillator, intermediate or carrier frequency) or 100 kHz below its lowest assignable frequency, whichever is the lowest frequency, to the 5th harmonic of the highest frequency generated or used without exceeding 23 GHz.

Note: The assigned frequency = f_c .

7.0 FREQUENCY STABILITY

The test set-up to be used is similar to sections 6.2.1, 6.2.2, or 6.2.3, with only one tone, 1800 Hz, required to be applied in the case of section 6.2.1 and the RF sideband frequency measured. For 6.2.2 or 6.2.3, the unmodulated carrier is to be measured.

Frequency stability is a measure of the frequency drift due to temperature and supply voltage variations, with reference to the frequency measured at +20°C and rated supply voltage.

The operating carrier frequency shall be set up in accordance with the manufacturer's published operation and instruction manual prior to the commencement of these tests. No adjustment of any frequency determining circuit element shall be made subsequent to this initial set-up.

The frequency shall be measured under the conditions specified below. A sufficient stabilization period at each temperature shall be used prior to each frequency measurement:

- (a) at 10 degree intervals of temperatures between -30°C and +50°C at the manufacturer's rated supply voltage, and
- (b) at +20°C temperature and $\pm 15\%$ supply voltage variations.

For handheld equipment that is only capable of operating from internal batteries, the frequency stability tests shall be performed using a new battery without any further requirement to vary the supply voltage. Alternatively, an external supply voltage can be used and set at the battery nominal voltage, and again at the battery operating end point voltage which shall be specified by the equipment manufacturer.

If an unmodulated carrier is not available, the mean frequency of a modulated carrier can be obtained by using a frequency counter with gating time set to an appropriately large multiple of bit

periods (gating time depending on the required accuracy). Full details on the choice of values shall be included in the test report.

Minimum Standard: The measured frequency shall not depart from the reference frequency (reference frequency is the frequency at 20°C and rated supply voltage) in excess of the values given in Table 2.

Table 2

Frequency (MHz)	Fixed station		Base (Land) station		Mobiles	
	Power (W) **	Freq. Stability	Power (W) **	Freq. Stability	Power (W) **	Freq. Stability
1.705-4.0 (SSB only)	• 200	50 Hz	• 200	50 Hz	No limit	40 Hz
	> 200	20 Hz	> 200	20 Hz		
4.0-29.7 (SSB and DSB)	• 500	50 Hz 20 ppm#	• 500	50 Hz 20 ppm#	No limit	50 Hz* 40 ppm#
	> 500	20 Hz 10 ppm#	> 500	20 Hz 20 ppm#		
29.7-50.0 (DSB only)	• 50	30 ppm	• 15	20 ppm	• 5	20 ppm
	> 50	20 ppm	> 15		> 5	

Legend: * For transmitters operating in the band 26.175-27.5 MHz with an output power not exceeding 15 watts, the permissible stability is ± 40 ppm.

** Peak envelope power for SSB (i.e. J3E, R3E and H3E) and mean power for DSB (i.e. A3E).

DSB Emission.

8.0 RECEIVER SPURIOUS EMISSIONS

Radiation measurement is the standard method (with the device's antenna in place), with the measurement performed using a calibrated open area test site.

However, if the antenna is detachable, the receiver spurious signal may

be measured by replacing the antenna with a spectrum analyzer of internal resistance equal to the impedance specified for the antenna.

The receiver shall be operated in the normal receive mode near the mid-point of the band over which the receiver is designed to operate.

The search for spurious emissions shall be from the lowest frequency internally generated or used in the receiver (local oscillator frequency, intermediate frequency or carrier frequency), or 30 MHz, whichever is the higher, to at least 3 times the highest tunable or local oscillator frequency, whichever is the higher frequency.

If the receiver incorporates a scanning mode of operation, refer to document RSS-135 since there are certain restrictions on their certification.

Minimum Standard: (i) The field strength of any spurious frequency in the vertical or horizontal polarization, measured at a distance of 3 metres from the antenna, shall not exceed 100 microvolts/m (in the band 30-88 MHz), 150 microvolts/m (88-216 MHz), 200 microvolts/m (216-960 MHz), or 500 microvolts/m (above 960 MHz). The resolution bandwidth of the spectrum analyzer shall be 100 kHz for measuring spurious emissions below 1.0 GHz, and 1.0 MHz for above 1.0 GHz.

Equipment manufactured or imported before June 23, 1999 is permitted the limits in Table 3.

Table 3

Frequency (MHz)	Field Strength (microvolts/m) at 3 metres.
30-70	320
70-130	500
130-174	500-1500 *
174-260	1500
260-470	1500-5000 *
Above 470	5000

* Interpolate linearly. The following formulas may also be used, where FS is in microvolts/metre, and F is in MHz : $FS = (22.73 \times F) - 2454$ for the band 130-174 MHz and $FS = (16.67 \times F) - 2833$ for the band 260-470 MHz.

(ii) If spurious emissions are measured at the antenna connector, the emission power in any 4 kHz shall not exceed 2 nanowatts (316 microvolts across 50 ohms).

9.0 EXPOSURE OF HUMANS TO RF FIELDS

Before equipment certification is granted, the procedures of RSS-102 must be followed concerning exposure of Humans to RF fields.

10.0 LICENSING CONSIDERATIONS

A licence is required. For additional information regarding the licensing of these devices, please contact the local Industry Canada Office.

11.0 EQUIPMENT CERTIFICATION AND TEST REPORT SUBMISSION

The test report, complete with measurement results, that addresses the requirements of this Standard, should be submitted with the application for certification of a transmitter. For receiver certification, a detailed test report is not necessary; it is only required to report the receiver tuning range or ranges, and the spurious emission level.

The application for certification should be prepared in accordance with RSP-100 and sent to:

Chief, Certification and Engineering Bureau
Industry Canada
3701 Carling Avenue (Building 94)
P.O. Box 11490, Station "H"
Ottawa, Ontario, Canada, K2H 8S2
Tel: (613) 900-4389 / Fax: (613) 900-4752
E-mail: Corey.bob@ic.gc.ca

Issued under the authority of the
Minister of Industry.

R.W. McCaughern
Director General
Spectrum Engineering

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