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Spectrum Management and Telecommunications

Radio Standards Specification

Fixed Wireless Access Equipment Operating in the Band 953-960 MHz

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Preface

RSS-194 Issue 1, *Fixed Wireless Access Equipment Operating in the Band 953-960 MHz*, will be in force as of the publication date of notice SMSE-007-07 in the *Canada Gazette*, Part I. Upon publication, the public has 120 days to make comments. These comments will be taken into account in the preparation of the next version of the document.

Issued under the authority of
the Minister of Industry

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1. Scope

This Radio Standards Specification (RSS) sets out standards for the certification of radio transmitters and receivers for fixed wireless access (FWA) systems in the band 953-960 MHz.

2. General Information

Equipment operating in this band is classified as Category I equipment and a technical acceptance certificate (TAC), issued by the Certification and Engineering Bureau of Industry Canada, or a certificate issued by a Certification Body (CB) is required.

2.1 RSS-Gen Compliance

RSS-194 must be used in conjunction with RSS-Gen, *General Requirements and Information for the Certification of Radiocommunication Equipment*, for general specifications and information relevant to the equipment for which this Standard applies.

2.2 Licensing Requirements

The equipment covered by this Standard is subject to licensing, pursuant to subsection 4(1) of the *Radiocommunication Act*.

2.3 Related Documents

All Spectrum Management and Telecommunications publications are available on the following website: <http://ic.gc.ca/spectrum> under *Official Publications*.

In addition to the related documents specified in RSS-Gen, the following should be consulted:

SRSP-300.953 *Technical Requirements for Radio Systems in the Fixed Service Operating in the Band 953-960 MHz*

SRSP – Standard Radio System Plan

3. Transmitter and Receiver Standard Specifications

3.1 Types of Modulation

The devices may employ any type of modulation technique. The type of modulation used shall be reported.

3.2 Frequency Plan and Channel Bandwidth

Channel bandwidth shall be greater than 600 kHz. Consult SRSP-300.953 for channel spacing and frequency plan.

3.3 Frequency Stability

The carrier frequency shall not depart from the reference frequency by more than ± 5 ppm.

In lieu of meeting the above frequency stability, the test report may demonstrate that the frequency stability is sufficient to ensure that the transmitter unwanted emission specification is met and the emission bandwidth stays within the licensee's authorized frequency band, when tested to the temperature and supply voltage variations specified in RSS-Gen.

3.4 Transmitter Output Power

The transmitter power shall not exceed 5 watts per radio frequency carrier. A transmitter with power up to 10 watts per RF carrier can be certified but may not be eligible for licensing.

3.5 Transmitter Unwanted Emission

- (a) The emission level shall remain within the mask defined in Figure 1 according to the device's channel bandwidth. The spectrum analyzer resolution bandwidth shall be 1% of the occupied bandwidth and the video bandwidth shall be 3 times the resolution bandwidth. The sweep time is 10 seconds.
- (b) In addition to the limits in (a), in any 100 kHz band that is removed from the assigned centre frequency by more than $\pm 250\%$ of the channel bandwidth, the power of any emission shall be attenuated below P_{mean} by at least $43 + 10 \log_{10}(P_{\text{mean}})$ dB, or 70 dB, whichever is less stringent. P_{mean} is the mean output power of the transmitter in watts.

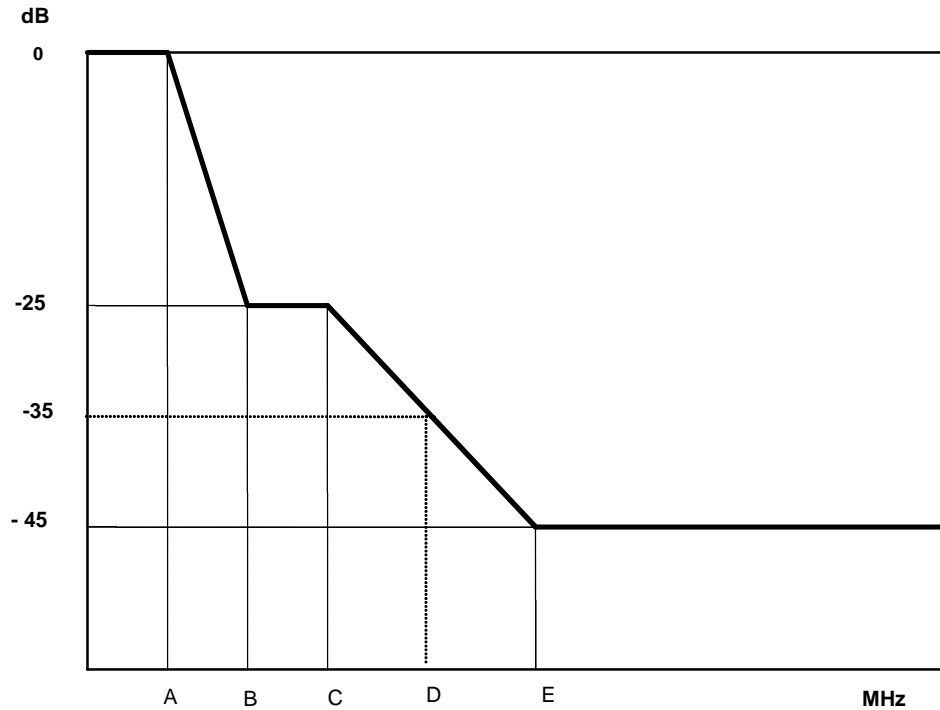


Figure 1 – Transmitter Unwanted Emission Mask

Table 1 – Frequency Offset for Transmitter Unwanted Emission Mask

Channel Bandwidth (MHz)	Frequency Offset from Channel Centre (MHz)				
	A	B	C	D	E
$BW_{eq} > 1.2$	$0.5 BW_{eq}$	$1.1 BW_{eq}$	$1.2 BW_{eq}$	$1.67 BW_{eq}$	$2 BW_{eq}$
1.2	0.600	1.32	1.44	2.0	2.4
$0.6 < BW_{eq} < 1.2$	$0.5833 (BW_{eq}-0.6) + 0.25$	$1.45 (BW_{eq}-0.6) + 0.45$	$1.4 (BW_{eq}-0.6) + 0.6$	$2.25 (BW_{eq}-0.6) + 0.65$	$2.6667 (BW_{eq}-0.6) + 0.8$
0.6	0.250	0.450	0.600	0.650	0.800

Where: BW_{eq} is the equipment bandwidth in MHz

3.6 Receiver Spurious Unwanted Emission

Receiver spurious emission shall comply with the limits specified in RSS-Gen.