



Spectrum Management and Telecommunications

Radio Standards Specification

Flexible Use Broadband Equipment Operating in the Bands 24.25-28.35 GHz and 37.6-40.0 GHz

Preface

Radio Standards Specification RSS-193, issue 2, *Flexible Use Broadband Equipment Operating in the Bands 24.25-28.35 GHz and 37.6-40.0 GHz*, replaces RSS-193, issue 1, *Flexible Use Broadband Equipment Operating in the Band 27.5-28.35 GHz* published on July 11, 2025.

Listed below are the main changes:

1. Added technical requirements for equipment operating in the 24.25-27.5 GHz and 37.6-40.0 GHz bands
2. Various editorial changes and clarifications have been made

Inquiries may be submitted by one of the following methods:

1) Online, using the [General Inquiry form](#) (in the form, select the Directorate of Regulatory Standards radio button and specify “RSS-193” in the General Inquiry field)

2) By mail to the following address:

Innovation, Science and Economic Development Canada
Engineering, Planning and Standards Branch
Attention: Regulatory Standards Directorate
235 Queen Street
Ottawa, Ontario K1A 0H5
Canada

3) By email to consultationradiostandards-consultationnormesradio@ised-isde.gc.ca

Additional information and guidance are available on the Innovation, Science and Economic Development Canada (ISED) web pages [Common Questions and Answers](#) and [General Notices](#).

Comments and suggestions for improving this standard may be submitted online using the [Standard Change Request form](#) or by mail or email to the above addresses.

All spectrum and telecommunications related documents are available on ISED’s [Spectrum Management and Telecommunications](#) website.

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Minister of Industry

Wen Kwan
Director General
Engineering, Planning and Standards Branch

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1. Scope

This Radio Standards Specification (RSS) sets out the requirements for the certification of flexible use broadband equipment, used in fixed and/or mobile services, operating in the frequency bands 24.25-28.35 GHz and 37.6-40.0 GHz.

2. Purpose and application

This RSS applies to base station, fixed service equipment and subscriber equipment operating in the frequency bands 24.25-28.35 GHz and 37.6-40.0 GHz.

3. General requirements and references

This section specifies the general requirements and references related to this standard.

3.1 Coming into force and transition period

This standard will be in force as of the date of its publication on Innovation, Science and Economic Development Canada's (ISED) website.

However, a transition period of six months from the publication date is provided. During this period, applications for certification under either issue 2 or issue 1 of RSS-193 will be accepted. After this period, only applications for the certification of equipment under issue 2 of RSS-193 will be accepted and equipment manufactured, imported, distributed, leased, offered for sale or sold in Canada shall comply with this present issue.

A copy of RSS-193, issue 1, is available upon request by emailing consultationradiostandards-consultationnormesradio@ised-isde.gc.ca.

3.2 Certification requirements

Equipment subject to this standard is classified as Category I and shall be certified. Either a technical acceptance certificate (TAC) issued by the [Certification and Engineering Bureau](#) (CEB) of ISED or a certificate issued by a recognized [certification body](#) (CB) is required.

3.3 Licensing requirements

Equipment subject to this standard requires a licence pursuant to subsection 4(1) of the [Radiocommunication Act](#).

3.4 RSS-Gen compliance

Equipment being certified under this standard shall comply with the applicable requirements specified in RSS-Gen, [*General Requirements for Compliance of Radio Apparatus*](#).

3.5 Related documents

The following documents should be consulted.

[SRSP-522, [*Technical Requirements for Non-Competitive Local Licensed Systems, including Fixed and/or Mobile systems, and Flexible Use Broadband Systems, in the Bands 24.25-25.1 GHz and 27.5-28.35 GHz*](#)]-pending publication of issue 2

[SRSP-523, *Technical Requirements for Fixed and/or Mobile Systems, Including Flexible Use Broadband Systems, in the Bands 25.1-27.5 GHz and 37.6-40.0 GHz*]-pending publication of issue 1

SRSP – Standard Radio System Plan

4. Definitions

The following terms are used in this standard.

Active antenna system (AAS)

Antenna system where the amplitude and/or phase between antenna elements is dynamically adjusted, resulting in an antenna pattern that varies in response to short-term changes in the radio environment.

NOTE 1 An AAS can be integrated into a base station or fixed service equipment.

NOTE 2 An antenna system used for long-term beam shaping, such as fixed electrical down tilt, is not considered an AAS.

AAS base station equipment

Base station equipment with an AAS.

Antenna

Radiating unit/component that contains all radiating elements forming either a fixed or dynamically adjusted pattern.

Base station equipment

Equipment that provides network connectivity to, as well as management and control of, the subscriber equipment.

Channel bandwidth

The equipment operating bandwidth specified by the manufacturer that contains the information transmitted.

Channel frequency

The frequency at the center of the channel bandwidth.

Fixed service equipment

Equipment authorized to operate at a fixed point that enables communication between terrestrial stations. It can be used for point-to-point (P-P) or point-to-multipoint (P-MP) services.

Fixed subscriber equipment

Subscriber equipment that is used at a fixed location, by the nature of its design. This does not include fixed service equipment.

Frequency block

Portion of spectrum within a frequency band that can typically be assigned to operators.

Frequency block group

Continuous frequency range of multiple contiguous frequency blocks that contain the equipment channel bandwidth specified by the manufacturer.

Mobile subscriber equipment

Subscriber equipment designed to be used while in motion or during halts at unspecified points.

NOTE As such, it includes portable equipment.

Non-active antenna system (non-AAS)

Antenna system that does not meet the definition of an AAS.

Non-AAS base station equipment

Base station equipment with a non-AAS.

Subscriber equipment

Equipment that provides connectivity between the user and the base station equipment.

Total radiated power (TRP)

The integral of the power transmitted by all radiating elements in different directions over the entire radiation sphere.

5. Transmitter requirements

This section specifies the requirements applicable to radio transmitters subject to this standard.

5.1 Measurement method

Unless otherwise specified in this standard, all measurements shall be performed in accordance with the requirements in [RSS-Gen](#). However, applicable alternative measurement procedures listed on the [Normative Test Standards and Acceptable Alternate Procedures](#) web page may also be used to demonstrate compliance.

The equipment shall comply with the specified requirements for all channel bandwidths specified by the manufacturer. If the transmitter is designed for multi-carrier operation, the tests shall be carried out using both the maximum and minimum number of carriers intended for the equipment. If the equipment operates in both the 24.25-28.35 GHz and the 37.6-40 GHz frequency bands, compliance shall be demonstrated for each band.

5.2 Band plan

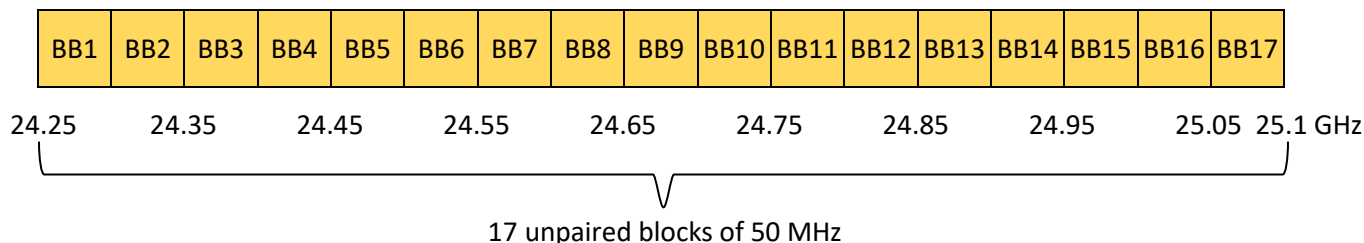
This section specifies the band plans applicable to radio transmitters subject to this standard.

5.2.1 Frequency band 24.25-28.35 GHz

In the frequency band 24.25-28.35 GHz, frequency blocks may be aggregated to form a frequency block group.

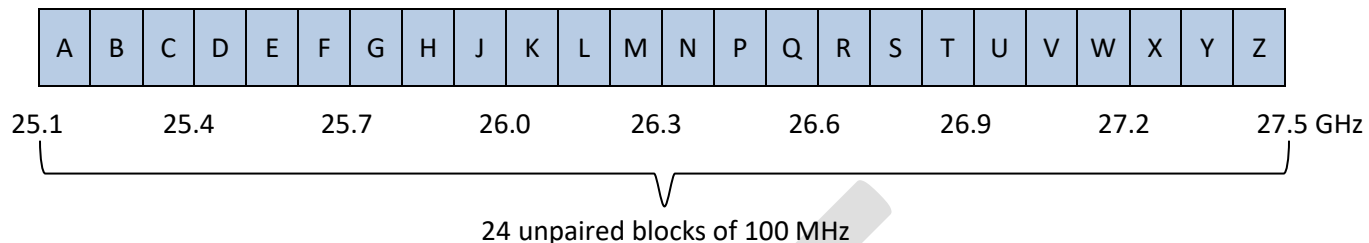
The frequency range 24.25-25.1 GHz is divided into 17 unpaired blocks of 50 MHz, labeled BB1 through BB17, as shown in figure 1.

Figure 1: Frequency blocks in the 24.25-25.1 GHz range



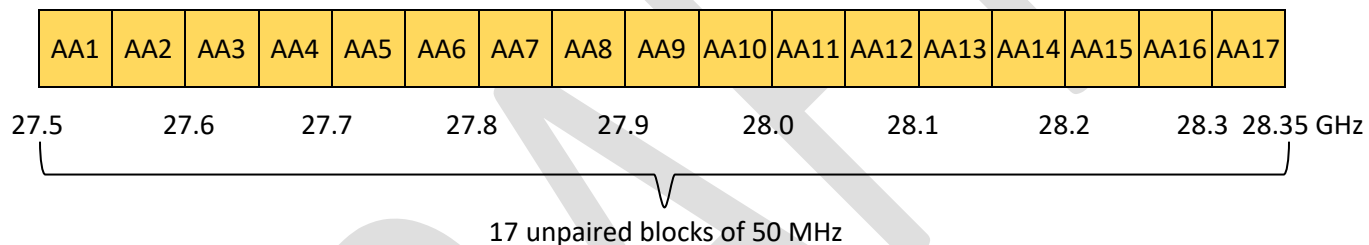
The frequency range 25.1-27.5 GHz is divided into 24 unpaired blocks of 100 MHz, labeled A through Z with no block labeled I and O, as shown in figure 2.

Figure 2: Frequency blocks in the 25.1-27.5 GHz range



The frequency range 27.5-28.35 GHz is divided into 17 unpaired blocks of 50 MHz, labeled AA1 through AA17, as shown in figure 3.

Figure 3: Frequency blocks in the 27.5-28.35 GHz range

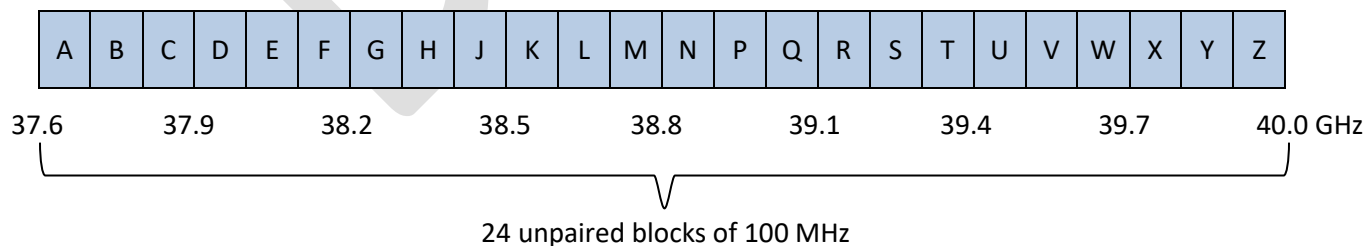


5.2.2 Frequency band 37.6-40.0 GHz

In the frequency band 37.6 – 40.0 GHz, frequency blocks may be aggregated to form a frequency block group.

The frequency band 37.6-40.0 GHz is divided into 24 unpaired blocks of 100 MHz, labeled A through Z with no block labelled I and O, as shown in figure 4.

Figure 4: Frequency blocks in the band 37.6-40.0 GHz



5.3 Type of modulation

The modulation used shall be digital.

5.4 Frequency stability

The frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block or frequency block group when tested to the temperature and supply voltage variations specified in [RSS-Gen](#).

5.5 Transmitter power

For each frequency band in which the equipment operates, the maximum power of the equipment measured in terms of average values shall comply with the limits specified in table 1.

Table 1: Maximum power of equipment

Equipment type	Maximum power (P_{MAX})
Base station and fixed service equipment (AAS or non-AAS)	75 dBm/100 MHz e.i.r.p.
Fixed subscriber equipment	55 dBm/channel bandwidth e.i.r.p.
Mobile subscriber equipment	43 dBm/channel bandwidth e.i.r.p.

e.i.r.p. - equivalent isotropically radiated power

Base station and fixed service equipment operating with a channel bandwidth of less than 100 MHz shall not exceed the limit prescribed in table 1 reduced proportionally and linearly based on the channel bandwidth (BW_{CH}) relative to 100 MHz:

$$transmitter\ power(dBm) \leq P_{MAX}(dBm) + 10 \log(BW_{CH}/100MHz)$$

For base station and fixed service equipment operating with non-contiguous channels the maximum power limit (including the equation) shall be applied individually to each contiguous portion of the channel. In this case the applicable channel bandwidth to use in the equation shall be the one of each contiguous portion.

5.6 Transmitter unwanted emissions

Unwanted emissions shall be measured in terms of average values when the transmitter is operating at the manufacturer's rated power and modulated as specified in RSS-Gen.

Equipment shall meet the unwanted emission limits, specified below, outside each frequency block or frequency block group. For each channel bandwidth supported by the equipment under test, the unwanted emissions shall be measured and reported for two channel frequencies: one located as close as possible to the low end and one located as close as possible to the high end of the equipment operating frequency range.

For all equipment, the TRP or total conducted power (sum of conducted power across all antenna connectors), where applicable, of the unwanted emissions outside the frequency block or frequency block group shall not exceed the limits specified in the table 2.

Table 2: Unwanted emission limits for all equipment types

Offset frequency from the edge of the frequency block or frequency block group	TRP or conducted power (sum of conducted power across all antenna connectors)
≤ 10% of occupied bandwidth	-5 dBm/MHz
> 10% of occupied bandwidth	-13 dBm/MHz

In addition to the limits outlined in table 2, for base station and mobile subscriber equipment operating within the 24.25-27.5 GHz frequency range, the TRP or total conducted power (sum of conducted power across all antenna connectors), where applicable, of the unwanted emissions in any 200 MHz within 23.6-24.0 GHz shall not exceed the limits specified in table 3.

Table 3: Unwanted emission limits within 23.6-24.0 GHz

Equipment type	TRP or conducted power (sum of conducted power across all antenna connectors)
Base station	-39 dBW/200 MHz
Mobile subscriber equipment	-35 dBW/200 MHz

6. Labelling requirement

Base station equipment operating in the 24.45-24.65 GHz band shall be labelled on the equipment or a statement shall be included in the user manual using the following text "Operation within 24.45-24.65 GHz is intended for indoor use only".