

ENGLISH TRANSLATION

150 MHz BAND ANIMAL DETECTION REPORT SYSTEM EQUIPMEMT FOR SPECIFIED LOW-POWER RADIO STATION

ARIB STANDARD

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Association of Radio Industries and Businesses

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Foreword

The Association of Radio Industries and Businesses (ARIB) investigates and summarizes the basic technical requirements for various radio systems in the form of "ARIB Standards". These standards are developed with the participation of and through discussions amongst radio equipment manufacturers, telecommunication operators, broadcasting equipment manufacturers, broadcasters and users.

ARIB Standards include "government technical regulations" (mandatory standard) that are set for the purpose of encouraging effective use of frequency and preventing interference with other spectrum users, and "private technical standards" (voluntary standards) that are defined in order to ensure compatibility and adequate quality of radio equipment and broadcasting equipment as well as to offer greater convenience to radio equipment manufacturers, telecommunication operators, broadcasting equipment manufacturers, broadcasters and users.

This ARIB Standard is developed for "150 MHz Band Animal Detection Report System Equipment for Specified Low-Power Radio Station." In order to ensure fairness and transparency in the defining stage, the standard was set by consensus at the ARIB Standard Assembly with the participation of both domestic and foreign interested parties from radio equipment manufacturers, telecommunication operators, broadcasting equipment manufacturers, broadcasters and users.

ARIB sincerely hopes that this ARIB Standard will be widely used by radio equipment manufacturers, telecommunication operators, broadcasting equipment manufacturers, broadcasters and users.

NOTE:

Although this ARIB Standard contains no specific reference to any Essential Industrial Property Rights relating thereto, the holders of such Essential Industrial Property Rights state to the effect that the rights listed in the Attachment 1 and 2, which are the Industrial Property Rights relating to this standard, are held by the parties also listed therein, and that to the users of this standard, in the case of Attachment 1, such holders shall not assert any rights and shall unconditionally grant a license to practice such Industrial Property Rights contained therein, and in the case of Attachment 2, the holders shall grant, under reasonable terms and conditions, a non-exclusive and non-discriminatory license to practice the Industrial Property Rights contained therein. However, this does not apply to anyone who uses this ARIB Standard and also owns and lays claim to any other Essential Industrial Property Rights of which is covered in whole or part in the contents of the provisions of this ARIB Standard.

Attachment 1 (None)

Attachment 2 (None) (Selection of Option 1)

(Selection of Option 2)

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Chapter 1 General Descriptions

1.1 Outline

This standard defines requirements for animal detection report system which is categorized as a Specified Low-power Radio Station designated in Article 6 of the Regulations for Enforcement of the Radio Law. The system is a radio system that makes radio communication used for mainly reporting the information about movement and status of animals in Japan with related control information.

1.2 Scope of Application

The radio station for the animal detection report system is comprised of radio equipment and associated unit including one connected through telecommunications circuit facilities as shown in Figure 1-1.

This standard defines technical requirements for the radio equipment.

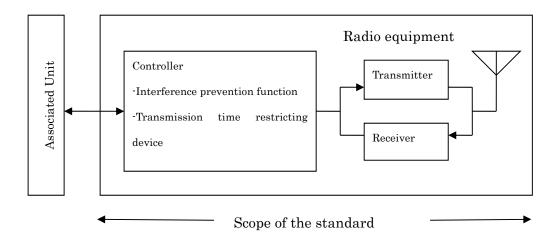


Figure 1-1 Configuration of radio station for animal detection report system

1.3 Reference Regulations

In the standard, "RERL" refers to the Regulations for Enforcement of Radio Law, "ORE" refers to Ordinance Regulating Radio Equipment, "OTRCC" refers to Ordinance Concerning Technical Regulations Conformity Certification etc. of Specified Radio Equipment, "OTF" refers to the Ordinance Concerning Terminal Facilities etc., "RTCCA" refers to the Rules Concerning the Technical Conditions Compliance Approval etc. for Terminal Equipment, "NT" refers to a Notification of the Ministry of Posts and Telecommunications if issued in

2000 or earlier, and a Notification of the Ministry of Internal Affairs and Communications if issued in 2001 or later.

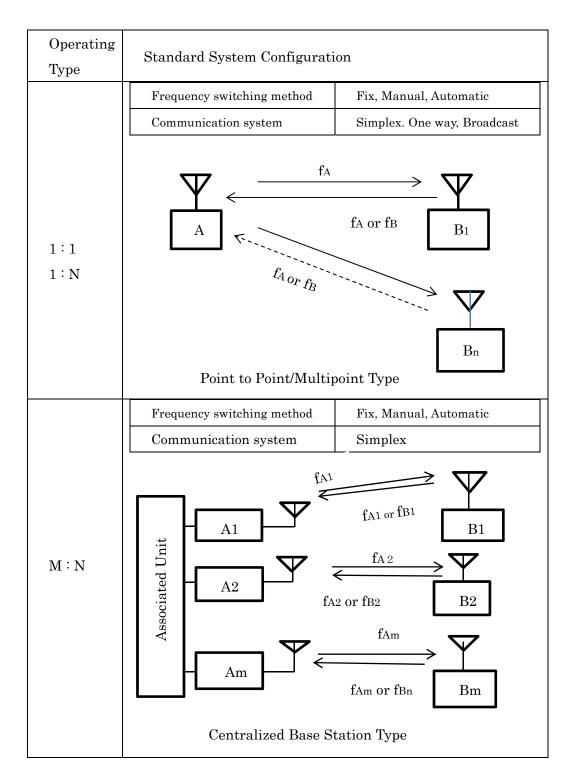
Chapter 2 Standard System

2.1 Outline of Standard System

"150 MHz Band Animal Detection Report System Equipment for Specified Low-power Radio Station" is a radio system standardized to make radio communication used for mainly reporting the information about movement and status of animals in Japan with related control information.

2.2 Operating Type and Standard System Configurations

The operating type and standard system configuration of "150 MHz Band Animal Detection Report System Equipment for Specified Low-power Radio Station" are shown in Figure 2-1.



(Note) A: Base Station Radio Equipment

- **B:** Slave Mobile Station
- fA, fB: Transmitting and Receiving Frequency
- Figure 2-1 Example of Standard System Configuration

(1) Basic Type 1:1

This type is used for point to point communication.

(2) Basic Type 1:N

This type is used for communication between a base radio station and multiple mobile stations.

(3) Basic Type M:N

This type is a centralized base type composed of multiple units of radio equipment that are installed at the same location and controlled by one unit of associated equipment.

It allows simultaneous communication with multiple mobile stations and also enables the mobile stations to communicate each other through the relay by the centralized base type radio equipment.

3.1 General Requirements

Chapter 3 Technical Requirements for Radio Equipment

(1) Communication System (NT: No.42 in 1989) Communication system shall be either of one way communication system, simplex communication system or broadcast communication system. (RERL: Article 6) (2) Contents of Communication The contents of communication shall be related to mainly reporting the information about movement and status of animals with related control information. (3) Emission Classes (NT: No.42 in 1989) Not specified

(4) Operating Frequencies

The operating frequencies shall be those designated in Table 3-1.

Channel number	Frequency (MHz)
1	142.940
2	142.950
3	142.960
4	142.970
5	142.980

Table 3-1 Channel Number and Operating Frequency

(5) Frequency- switching Method

The frequency-switching method shall be either of fixed type, manual type or automatic type

(6) Environmental Conditions

Not specified

3.2 Transmitter

(1) Antenna Power

The antenna power shall be 1W or less.

(2) Antenna Power Tolerance

The tolerance of the antenna power, which is the maximum permissible tolerance from designated or rated antenna power, shall be 20% in the upper limit. Lower limit is not

(NT: No.42 in 1989)

(ORE: Article 14)

(NT: No.42 in 1989)

specified.

(3) Oscillation Method

(ORE: Article 49.14)

The oscillation method shall be either of a crystal oscillation method and a frequency synthesizer method which uses a crystal oscillator to control the oscillation frequency.

(4) Frequency Tolerance (ORE: Article 5, Appended Table 1 and NT: No.422 in 2012)

The frequency tolerance, which is the maximum permissible tolerance from the designated center frequency of the occupied frequency band of the emitted signal, shall be $\pm 12 \times 10^{-6}$.

(5) Modulation Method

Not specified.

(6) Frequency Deviation

Not specified.

(7) Modulation Rate

Not specified.

(8) Coding Type

Not specified.

(9) Leakage Power to Adjacent channel

(ORE: Article 49.14)

The leakage power radiated to the adjacent channel of the bandwidth of ± 8 kHz separated by 20 kHz from the center frequency of the carrier shall be 1µW or less. However, when the absolute gain of a transmit antenna is 0dB or less, the leakage power shall be 1µW or less as equivalent isotropic radiation power (Note).

Note: Equivalent isotropic radiation power may be obtained by adding the transmit antenna gain (dB) to the power (dB) measured at the input to the feeder.

(10) Permissible Value for Occupied Bandwidth

(ORE: Article 6 Appended Table 2 and NT: No.659 in 2006)

The permissible value for occupied bandwidth, which is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to 0.5% of the total mean power of a given emission, shall be 16 kHz.

(11) Permissible Levels of Spurious Emission or Unwanted Emission Intensity

(ORE: Article 7)

a) Definition

(RERL: Article 2-1)

Spurious emission is defined as emission on a frequency, or frequencies, which are outside the necessary bandwidth and the level of which may be reduced without affecting the corresponding transmission of information. Spurious emissions include harmonic emissions, parasitic emissions, intermodulation products and frequency conversion products but exclude out-of-band emissions. (REAL: Article 2-1-63)

Out-of- band emission is defined as emission on a frequency or frequencies immediately outside the necessary bandwidth which results from the modulation process (REAL: Article 2-1-63.2)

Unwanted emissions consist of spurious emissions and out-of-band emissions. (REAL: Article 2-1-63.3)

Spurious domain is defined as the frequency range beyond the out-of-band domain in which spurious emissions generally predominate. (REAL: Article 2-1-63.4)

Out-of-band domain is defined as the frequency range, immediately outside the necessary bandwidth, in which out-of-band emissions generally predominate. (REAL: Article 2-1-63.5)

(ORE: Appended Table 3)

Permissible level of spurious emission is defined as a limit which is stated as mean power of spurious emissions on frequencies of waves supplied to an antenna transmission line by unmodulated signals. (ORE: Appended Table 3, 1 (1)) Permissible level of unwanted emission is defined as a limit which is stated as mean power of unwanted emissions on frequencies of waves supplied to an antenna transmission line by modulated signals. (ORE: Article 7, Appended Table 3, 1 (2))

b) Permissible Levels

(ORE: Article 7, Appended Table 3-22 and NT: No.368 in 2007) Permissible levels of spurious emission or unwanted emission shall be as follows. The boundary frequency between out-of-band domain and spurious domain shall be ± 62.5 kHz from the carrier frequency.

Permissible level of spurious emission in out-of-band domain
 It shall be 2.5µW or less, or 40 dB or more below the average carrier power of
 the fundamental frequency. However, when the absolute gain of a transmit
 antenna is 0dB or less, it shall be 2.5µW or less as equivalent isotropic
 radiation power (Note), or 40 dB or more below the average carrier power of the

fundamental frequency.

ii) Permissible level of unwanted emission in spurious domain
It shall be 2.5µW or less, or 43 dB or more below the carrier power of the
fundamental frequency. However, when the absolute gain of a transmit antenna
is 0 dB or less, it shall be 2.5µW or less as equivalent isotropic radiation power
(Note), or 43 dB or more below the carrier power of the fundamental frequency.
Note: Equivalent isotropic radiation power may be obtained by adding the
transmit antenna gain (dB) to the power (dB) measured at the input of the

(12) Transmission Rising Time and Falling Time

Transmission rising time and falling time are not specified.

3.3 Receiver

(1) Limit of Secondary Radiated Emissions

(ORE: Article 24)

The limit of secondary emissions radiated from the receiving equipment shall be, in terms of the power at a dummy antenna circuit that has the same electrical constant as the receiving antenna, 4nW or less when measured using the circuit.

(2) Encoding Reference Sensitivity

The encoding reference sensitivity, which is defined as the necessary receiver input level affording bit error rate of 1×10^{-2} at the output of the receiver when a desired signal modulated by a standard coded test signal at the same transmission speed as that of the transmitter is applied, should be 2μ V or less.

(3) Spurious Response in Effective Selectivity

The spurious response in effective selectivity, which is defined as the ratio of unmodulated interfering input signal voltage to the encoding reference sensitivity affording bit error rate of 1×10^{-2} at the output of the receiver when an unmodulated interfering signal is applied in a state in which desired signal input voltage having 3dB higher than the encoding reference sensitivity is applied, should be 40dB or more.

(4) Adjacent Channel Sensitivity in Effective Selectivity

The adjacent channel sensitivity in effective selectivity, which is defined as the ratio of the modulated interfering input signal voltage to encoding reference sensitivity affording a bit error rate of 1×10^{-2} at the output of the receiver when the interfering signal modulated by a recurring binary digit pseudo-noise signal having a code length of 32767 bits and 25 kHz distant from the desired signal in a state in which the desired signal having 3dB higher than the encoding reference sensitivity are applied, shall be 30dB or higher.

(5) Frequency Drift of Local Oscillator

The frequency drift tolerance of a local oscillator which is defined as the maximum drift width of the oscillation frequency of a local oscillator) shall be $\pm 12 \times 10^{-6}$ or less.

3.4 Controller

The controller shall be equipped with the following units and functions, and shall conform to the respective conditions.

- (1) Interference Prevention Function (RERL: Article 6.2 and ORE: Article 9.4)
 - i) The case where the radio equipment is connected to telecommunications circuit facilities:

In this case radio equipment is primarily used in the same premises. The radio equipment shall automatically transmit or receive an identification code which is used to identify an remote party of the communication but is different from one specified in Article 8-1-3 of the Radio Law; hereinafter.

ii) The case where the radio equipment is not connected to a telecommunication network:

In this case the either of the following functions is required.

- ① Function that automatically transmit or receive an identification code of the radio equipment used primarily in the same premises.
- ⁽²⁾ Function that frequency switch or halt of the radio emission can be performed easily by users.
- (2) Identification of the Opposite Party of Communication

In the case where the radio equipment is connected to telecommunications circuit facilities, the controller shall detect an identification code of the opposite party of communication from the received radio waves.

(3) Transmission Time Restricting Device (ORE: Article 49.14 and NT: Article 49 in 1989) The time limit device of transmission is a device having functions that stop the radio emission within the specified transmission time after the radio emission and resume the subsequent radio emission only after the specified transmission halt time has elapsed, or restrict the duration time of the transmission within the specified transmission time and does not resume the radio emission before the specified transmission time has elapsed following the end of the communication. The limits to the duration of the transmission and the transmission halt time shall be: i) The case where antenna power is 10mW or less:

The total time of the transmission per 5 seconds shall be 1 second or less.

ii) The case where antenna power is higher than 10mW

The maximum duration time permitting continuous transmission shall be 600 seconds and the radio emission halt time shall be 1 second. In the case where the emission is intended to be made exceeding 600 seconds, the emission shall be halted automatically when 600 seconds has elapsed after the start of the emission, and within the emission halt time of 1 second the emission shall not be resumed. In the case where the duration of the continuous emission is less than 600 seconds, the emission can be resumed immediately.

(4) Carrier Sensing (ORE: Article 49.14 and NT: Article 49 in 1989)Function of carrier sense shall be the following.

i) The case where antenna power is 10mW or less

The function of carrier sense is not required.

ii) The case where antenna power is higher than 10mW

The function of carrier sense shall be installed. Before the radio equipment starts new emission, carrier sense shall be performed. The level of the carrier sense shall be 7μ V or higher as voltage induced in an antenna with absolute gain of 2.14dB.

(5) Channel Connection Procedure

Not specified.

3.5 Antenna

(1) Antenna Structure (ORE: Article 49.14)

Not specified

(2) Antenna Gain

The absolute gain of the transmitting antenna shall be 2.14dB or less.

However, when the equivalent isotropically radiated power (e.i.r.p.) of the emitted radio wave is less than the summation of 2.14dB and antenna power of 1W, the shortage of the e.i.r.p. can be compensated by increasing the antenna gain.

3.6 Others

(1) Housing

(ORE: Article 49.14 and NT: No.49 in 1989)

(ORE: Article 49.14)

The radio equipment shall be housed in a single cabinet that shall not be able to be opened easily. This requirement, however, does not apply to the following:

i) Power-supply equipment

- ii) Control unit
- iii) Antenna
- iv) Display panel indicating the operating status of transmitters and receivers
- v) Volume and squelch controllers
- vi) Frequency switching unit
- vii) Transmission/reception switchers
- viii) Associated unit and the equivalent one
- (2) Mark of Technical Regulations Conformity Certification (OTRCC: Article 8)

A mark of technical regulations conformity certification shall be displayed in the specified format on a highly visible area of the radio equipment

(3) Interface with Associated Unit

Interference between radio equipment and associated unit is not specified.

3.7 Safety and Reliability

i) In designing data signal format, redundancy of the data and error correction function shall be considered.

ii) In designing and operating the system, thorough consideration shall be given to possible crosstalk and interference.

Chapter 4 Connection to Telecommunications Circuit Facilities

In the case where the radio equipment intends to connect to a telecommunications circuit facilities, in addition to the conditions specified in Chapter 3 the following conditions shall be met.

(1) Identification Code

Identification code, which is used to identify a transmitting station at an opposite site by checking the code before establishing a communication line and is generally included in a control signal, shall be comprised of 48 bits or more.

(2) Interference Conditions with Telecommunications Circuit Facilities

Interference condition with telecommunication facility shall be in accordance with technical standards specified in OTF and technical standards specified by a Type I telecommunication carrier.

(3) Housing (OTF: Article 9 and NT: No.424 in 1994)

The radio equipment shall be housed in a single cabinet that cannot be opened readily. This requirement, however, does not apply to the following:

- i) Power equipment
- ii) Control panel, display panel and volume controller or equivalent one
- iii) Squelch controller, frequency switching device, associated unit for data signal or the equivalent one
- (4) Mark of Technical Conditions Compliance Approval of Terminal Equipment

(RTCCA: Article 10)

A mark of technical conditions compliance approval of terminal equipment shall be displayed in the specified format on a highly visible area of the radio equipment.

Chapter 5 Measurement Methods

Measurement methods shall be in accordance with the Notification of the Ministry of Internal Affairs and Communications (Note 1), which are specified in item 1(3) of Appended Table 1 of OTRCC.

For other test items which are not notified in the above methods, measurements methods generally used shall be applied.

Note 1: This ordinance refers to Notification of Ministry of Internal Affairs and Communications No.88 "The testing method for the characteristics examination" (January 26, 2004) as of the date of issue of this revised standard (version 2.1 issued at July 3, 2015). However, the latest version of the Notification shall be applied if the Notification or contents of the Notification are revised. Reference 1 Test Items in relation to Technical Regulations Conformity Certification for Specific Radio Equipment

(OTRCC: Appended Table No.1, and Examination for Technical Regulations Conformity Certification: Articles 6 and 25)

The test items in relation to the technical regulations conformity certification for the specific low-power radio equipment are as follows:

- (1) Transmitter
 - -Frequency tolerance,
 - -Occupied frequency bandwidth,
 - -Intensity of spurious emission or unwanted emission,
 - -Tolerance of antenna power,
 - -Power leakage to adjacent channels
- (2) Receiver
 - -Limit of Secondary Radiated Emissions
- (3) Other Equipment

-Interference Prevention Function

-Transmission time restricting device

Amendment History of Standard

150 MHz Band Animal Detection Report System Equipment for Specified Low-Power Radio Station (ARIB STD-T99)

The 1.1th edition amendment history

Page	Para.no.	Content of amendment	Old edition	Reason
16	Reference	(7) Identification code	(7) Identification code	-In line with the
	2	(i) <u>The case where EIRP is</u>	(i) The case where the -	revision of NT
	2.2 (7)	<u>100µW or less and the</u>	equipment is connected to a	No.481 in 2008)
		equipment is not connected to	telecommunication circuit	
		<u>a telecommunication</u>	and EIRP is 0.1mW or-	
		<u>network: 6 bits or more are</u>	more: Shall be 48 bits.	
		recommended.		
		(ii)The case other than the	- The first 8 bits of the 48-	
		<u>case (i): Shall be 48 bits.</u>	bits shall be used for the-	
		Identification code is	number of the Registration-	
		managed by the following	Certification Body.	
		organization.		
		<u>1. Registration Certification</u>	The number of the-	
		Body registered according to	Registration Certification	
		<u>a business type specified in</u>	Body is related to the	
		<u>the Radio Law No.38, 2-1-1</u>	elassification registered	
		2. Approval Certification	based on the Radio Raw-	
		Body approved according to a	38-2.1-1 among Registration	
		business type specified in the	Certification Bodies	
		<u>Radio Law No.38, 2-1-1</u>	registered in the NT No.460	
		<u>3. Registered Foreign</u>	of July 1 in 2003 and -	
		Conformity Assessment Body	Registered Foreign	
		registered according to a	Conformity Assessment-	
		business type specified in the	Bodies registered in the NT	
		<u>Radio Law No.38, 2-1-1</u>	No.638 of November 20 in	

(NIT: N. 401 : 2000)	2007 II 1 1
<u>(NT: No.481 in 2008)</u>	2007. However, when these
	NT's or the contents of the
	NT are revised, the number
	shall be in accordance with
	the revisions.
<u>As a reference, an example of</u>	As a reference, the numbers
<u>a format of identification code</u>	of the registered bodies-
<u>is shown below.</u>	effective on September 25,
	2008 are shown in the Table
	Reference 2-1.
The number of the	- (ii) The case where the
Registration Certification	equipment is not connected-
Body is related to the	to a telecommunication-
classification registered	circuit and EIRP is 100µW-
based on the Radio Raw	or less: 6 bits or more are-
38-2.1-1 among Registration	recommended.
Certification Bodies	
registered in the NT No.460	
of July 1 in 2003 and	
<u>Registered Foreign</u>	
Conformity Assessment	
Bodies registered in the NT	
No.638 of November 20 in	
2007. However, when these	
NT's or the contents of the	
NT are revised, the number	
shall be in accordance with	
the revisions.	
As a reference, the numbers	
of the bodies are shown in the	
following Table Reference	
<u>2-1.</u>	
<u> </u>	

number of the Conformitynumber of the ConformityNT No.105Assessment Bodies and 8 bitsAssessment Bodies and 82009 and t	-	No. of Registration Registration Registration Option 0 Certification Body Certification Body Certification Body 20 bits 20 bits	No. of Registration Option Certification Body 40 bits 8 bits 40 bits Figure Ref. 2:4 Format of Identification Code (48 bits) Table Reference 2-1 The	-In line with the
excerpts)		number of the Conformity Assessment Bodies and 8 bits expression (a list of the excerpts) * * * * * * * * * * * * * * * * * * *	number of the Conformity Assessment Bodies and 8 bits expression (a list of the excerpts) <u>V</u> <u>TÜV SÜD Japan</u> ^e 010 ^e 0000 1010 ^e 0Ah ^e <u>TELEFICATION B.Ve</u> 201 ^e 1100 1011 ^e C9h ^e	NT No.105 in 2009 and the revisions of the NT No.406 in 2003)

Page	Paragraph No.	Content of amendment	Old edition	Reason
	Foreword	The Association of Radio Industries and Businesses (ARIB), investigates and summarizes the basic technical requirements for various radio systems in the form of "ARIB Standards." These standards are developed with the participation of and through discussions amongst radio equipment manufacturers, telecommunication operators, broadcasting equipment manufacturers, broadcasters and users.	The Association of Radio Industries and Businesses (ARIB), an incorporated association, investigates and summarizes the basic <u>technical</u> requirements for various radio systems in the form of "ARIB Standards" with the participation of and through discussions amongst radio <u>communication</u> equipment manufacturers, <u>broadcasting equipment</u> <u>manufacturers</u> , <u>telecommunication operators</u> , broadcasters and users.	Review of description
		ARIB Standards include "government technical regulations" (mandatory standard) that are set for the purpose of encouraging effective use of frequency and preventing interference with other spectrum users, <u>and</u> "private technical standards" (voluntary standards) that are defined in order to ensure compatibility and adequate quality of radio equipment and broadcasting equipment as well as to offer greater convenience to radio equipment manufacturers, telecommunication operators, broadcasting equipment manufacturers, broadcasters and users.	ARIB Standards include "private technical standards" (voluntary standards) that are defined in order to ensure compatibility and adequate quality of radio equipment and broadcasting equipment as well as to offer greater convenience to radio equipment manufacturers, telecommunication operators, broadcasting equipment manufacturers, broadcasters and users <u>in conjunction with</u> "government technical regulations" (mandatory standard) that are set for the purpose of encouraging effective use of frequency and preventing interference with other spectrum users.	

The 2.0th edition amendment history

NOTE: Although this ARIB	Addition
Standard contains no	
specific reference to any	
<u>Essential Industrial</u>	
Property Rights relating	
thereto, the holders of such	
Essential Industrial	
<u>Property Rights state to the</u>	
<u>effect that the rights listed</u>	
in the Attachment 1 and 2,	
which are the Industrial	
<u>Property Rights relating to</u>	
<u>this standard, are held by</u>	
the parties also listed	
therein, and that to the	
<u>users of this standard, in</u>	
the case of Attachment 1,	
such holders shall not	
assert any rights and shall	
<u>unconditionally grant a</u>	
license to practice such	
Industrial Property Rights	
<u>contained therein, and in</u>	
the case of Attachment 2,	
<u>the holders shall grant,</u>	
<u>under reasonable terms and</u>	
<u>conditions, a non-exclusive</u>	
and non-discriminatory	
license to practice the	
Industrial Property Rights	
<u>contained therein.</u>	
<u>However, this does not</u>	
apply to anyone who uses	
this ARIB Standard and	
<u>also owns and lays claim to</u>	

1 Industrial Property Rights. of which is covered in whole or part in the contents of 1 Industrial Property Rights. of which is covered in whole or part in the contents of 1 1.1 This standard defines This standard defines Reviewed in ince with the requirements for radio equipment for data. NT equipment to send information or information transmission to send NT processed for the purpose of establishing animal processed for the purpose of establishing animal detection which is categorized as a specified Low-power Radio scategorized as a Specified Intervention Specified Low-power Radio Low-power Radio Station Article 6 of the Regulations for Enforcement of the Radio Law. The system is a radio system that makes system is a radio system that information about for mainly reporting the information about information about motention information. for mainly reporting the information. "10 Japan.to which is service" information. ardio communication information. "10 Japan.to which is on anial woring in Japan and control information. information. <tr< th=""><th></th><th></th><th>any other Facential</th><th></th><th></th></tr<>			any other Facential		
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111			Station designated in	Low- power Radio Station	
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2 2.1 "150 MHz Band Animal "150 MHz Band Animal Reviewed in Detection Report System Detection Report System Ine with the Equipment for Specified Equipment for Specified NT Low-power Radio Station" power Radio Station" is a is a radio system			control information.	equipment is attached, and	
Detection Report SystemDetection Report Systemline with theEquipment for SpecifiedEquipment for Specified Low-NTLow-power Radio Station"power Radio Station" is aIterationis a radio systemradio system standardized toIteration				control information.	
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Low-power Radio Station"power Radio Station" is ais a radio systemradio system standardized to			Equipment for Specified	Equipment for Specified Low-	NT
			Low-power Radio Station"	power Radio Station" is a	
			is a radio system	radio system standardized to	
			standardized to make radio	make radio communication	
communication used for used for <u>mainly reporting the</u>			communication used for	used for <u>mainly reporting t</u> he	

·				
		<u>mainly reporting the</u>	information about movement	
		information about	and status of animals moving	
		movement, status of	<u>in Japan to which some</u>	
		animals and control	equipment is attached, and	
		information.	control information.	
4	3.1(1)	Communication system	Communication system is	In line with
		shall be either of one way	specified in Table 3-2.	the NT No.87
		communication system,	Table 3-2 Antenna Power, Communication system-	in 2012
		simplex communication	0.01W or less- One way system, Simplex system or Broadcasting system-	
		system or broadcast	(Note) eirp: equivalent isotropic radiation power-	
		communication system.		
4	3.1(2)	The contents of	The contents of	Reviewed in
		communication shall be	communication shall be	line with the
		related to <u>mainly reporting</u>	related to <u>mainly reporting</u>	NT
		the information about	the information about	
		movement, status of	movement and status of	
		animals and control	<u>animals moving in Japan to</u>	
		information.	which some equipment is	
			attached and control	
			information_	
4	3.1(3)	Emission Classes	Emission classes and	In accordance
		Not specified	<u>frequencies:</u>	with the NT
			Emission classes and	No.87 in 2012
			frequencies shall be as	
			specified in Table 3-1.	
			Table 3-1 Emission Classes and frequency Frequency Emission Classes ¹⁰ Channel Number ³ Frequency a F1Da ² 1a ² 142.940a ² a F2Da ² 2a ² 142.950a ² a A1Da ² 3a ² 142.950a ² a M1Da ² 5a ² 142.950a ² a	
4	3.1(4)	<u>Frequencies</u>		Section 3.1(4)
		Frequencies shall be as		is added to
		specified in Table 3-1.		reflect the
				revision of
				101151011 01

or less.specified in Table 3-2. Table 3-2. Tabl		2.2(1)	Table 3-1 Channel number and frequency ω Channel Number Frequency 1 ω 142.940 ω 2 ω 142.950 ω 3 ω 142.960 ω 4 ω 142.970 ω 5 ω 142.980 ω	"Table 3-1 Type of radio wave and frequency-" Type of Radio Waves Channel Number. Frequency-" F1D- 10 142.940-" " F2D- 20 142.940-" " A1D- 30 142.940-" " Gr/ 44- 142.940-" " M1D- 30 142.940-" "	subsequent sections were renumbered in order.
The frequency tolerance, which is the maximumThe frequency tolerance, which is the maximumthe No. of NT,permissible tolerance from permissible tolerance from the designated centerpermissible tolerance from the designated centerDescription on the method of measurementfrequency of the occupied frequency band of the emitted signal, shall be \pm 	4	3.2(1)	Antenna power shall be <u>1W</u> <u>or less.</u>	Table 3-2 Antenna Power, Communication System. \$\vee\$ Antenna Power. Communication System. 0.01W or less. One way system, Simplex \$\vee\$ System or Broadcasting system. 100µW (e.ir.p.) or One way system or less. Broadcasting system.	
	5	3.2(4)	The frequency tolerance, which is the maximum permissible tolerance from the designated center frequency of the occupied frequency band of the emitted signal, shall be \pm	which is the maximum permissible tolerance from the designated center frequency of the occupied frequency band of the emitted signal, shall be the following. <u>In the case where the</u> <u>frequency of the carrier</u> modulated by a standard test signal, which is <u>a recurring binary digit</u> <u>pseudo- noise signal having a</u> <u>code length of 511 bits, is</u> <u>measured, the average</u> <u>frequency deviation shall be</u>	the No. of NT, Description on the method of measurement

			by using the unmodulated	
			<u>carrier. However, if a</u>	
			frequency offset occurs when	
			the unmodulated carrier is	
			transmitted continuously, the	
			center frequency is obtained	
			according to the equation	
			(upper limit frequency	
			<u>corresponding to the</u>	
			maximum level modulation	
			signal + lower limit frequency	
			<u>corresponding to the</u>	
			<u>minimum level modulation</u>	
	3.2(5)	Madalatian mathadia aat	<u>signal)/2.</u>	In accordance
5	3.2(0)	Modulation method <u>is not</u>	Modulation method <u>shall be</u>	
		specified.	in accordance with the	with the NT
			emission classes specified in	No.87 in 2012
-	2.2(2)	m i i i i	<u>section 3.1(3)</u>	T 1
5	3.2(9)	The leakage power emitted	The leakage power emitted to	In accordance
		to the adjacent channel of	the adjacent channel of the	with the
		the bandwidth of ±8kHz	bandwidth of ±8kHz	partial
		separated by 20 kHz from	separated by 20 kHz from the	revisions of
		the center frequency of the	center frequency of the	ORE
		carrier shall be 1µW or less.	carrier shall be 1µW or less.	
		However, <u>regarding the</u>	regarding to the radio	
		radio equipment having the	equipment having the	
		<u>transmit absolute antenna</u>	absolute gain of a transmit	
		gain of 0dB or less, the	antenna is 0dB or less,	
		<u>leakage power shall be 1µW</u>	However, regarding the radio	
		<u>or less as equivalent</u>	<u>equipment having the</u>	
		isotropic radiation power	equivalent isotropic radiation	
		<u>(Note).</u>	power of 100µW or less, the	
		<u>Note: Equivalent isotropic</u>	<u>leakage power shall be 1µW</u>	
		radiation power may be	or less as equivalent isotropic	

		obtained by adding the	radiation power.	
		transmit antenna gain (dB)	Table 3-3 Leakage power emitted to adjacent channels-	
		to the power (dB) measured	e Antenna Powero Measurement Conditionor Allowable Leakage Powero e 100pW (gipp) or the adjacent channel of the The adjacent chann	
		at the input to the feeder.	less- bandwidth of sSEHz lpW (srgp) or less- Other than the the center frequency of the tpW or less- ipW or less- ipW or less-	
			above- carrier- (Note) eirp: equivalent isotropic radiation power-	
5	3.2(10)	(NT: No.659 in 2006)	(NT: No.51 in 1989)	Correction to
				NT number
5	3.2(11)	Spurious domain is defined		Addition of the
	a) Definition	as the frequency range		definition of
		beyond the out-of-band		the
		<u>domain in which spurious</u>		terminologies
		emissions generally		
		<u>predominate.</u>		
		(REAL: Article 2-1-63.4)		
		<u>Out-of-band domain is</u>		
		<u>defined as the frequency</u>		
		range, immediately outside		
		<u>the necessary bandwidth,</u>		
		<u>in which out-of-band</u>		
		emissions generally		
		<u>predominate.</u>		
		<u>(REAL: Article 2-1-63.5)</u>		
6	3.2(11)	(ORE: Appended Table 3)	" <u>Permissible level of</u>	Correction to
	a) Definition	<u>"Permissible level of</u>	spurious emission or	the definition
		<u>spurious emission" is</u>	<u>unwanted emission" is</u>	of the
		<u>defined as a limit which is</u>	<u>defined as a limit which is</u>	terminologies
		stated as mean power of	stated as power of unwanted	
		spurious emissions on	emissions on frequencies of	
		frequencies of unmodulated	modulated signals supplied	
		signals supplied to an	<u>to an antenna transmission</u>	
		<u>antenna transmission line.</u>	line or mean power of	
		(ORE: Appended Table 3, 1	equivalent isotropic radiation	
		(1))	power of the signals.	

		"Permissible level of	((ORE: Appended Table 3, 1	
		unwanted emission" is	<u>(2))</u>	
		defined as a limit which is		
		stated as mean power of		
		unwanted emissions on		
		frequencies of unmodulated		
		signals supplied to an		
		antenna transmission line.		
		(ORE: Appended Table 3, 1		
		<u>(2))</u>		
6	3.2(11)	(ORE: Article 7 Appended	(ORE: Article 7 Appended	Addition of NT
	b)	<u>Table 3-22)</u>	<u>Table 3-23)</u>	numbers, et al.
	Permissible	<u>(NT: No.368 in 2007)</u>		
	Levels			
6	3.2(11)	Permissible levels of	Permissible levels of spurious	In accordance
	b)	spurious emission or	emission or unwanted	with NT No.89
	Permissible	unwanted emission <u>shall be</u>	emission <u>shall be as specified</u>	in 2012
	Levels	<u>as follows. The boundary</u>	<u>in Table 3-4.</u>	
		frequency between		
		out-of-band domain and		
		<u>spurious domain shall be</u>	Table 3-4 Permissible level of spurious emission or unwanted emission-	
		<u>±62.5 kHz from the carrier</u>	Definition - out of band domain- inside of se2.5 kHz	
		frequency.	from the carrier 2.5µW (e.ir.p.) or less- frequency).	
		i) Permissible level of	less" spurious domain (outside of #62.5 kHz from the carrier 2.5µW (eirp) or less"	
		spurious emission in	frequency)== out-of-band domain== (inside of =62.5 kHz 2.5pW or less==	
		out-of-band domain:	Other than the abore* from the carrier frequency)* abore*	
		It shall be 2.5µW or less, or	(outside of $\pm 62.5 \text{ kHz}$ from the earrier frequency) \vec{e}	
		40 dB or more below the	(Note) eirp : equivalent isotropic radiation power-	
		average carrier power of the		
		<u>fundamental frequency.</u>		
		However, when the absolute		
		<u>gain of a transmit antenna</u>		
		<u>is 0dB or less, it shall be</u>		
		2.5μ W or less as equivalent		

		isotropic radiation power		
		(Note), or 40dB or more		
		below the average carrier		
		power of the fundamental		
		frequency.		
		ii)Permissible level of		
		unwanted emission in		
		spurious domain		
		<u>It shall be 2.5µW or less, or</u>		
		<u>43 dB or more below the</u>		
		carrier power of the		
		<u>fundamental frequency.</u>		
		However, when the absolute		
		gain of a transmit antenna		
		is 0 dB or less, it shall be		
		$2.5\mu W$ or less as		
		<u>equivalent isotropic</u>		
		radiation power (Note), or		
		43 dB or more below the		
		<u>carrier power of the</u>		
		<u>fundamental frequency.</u>		
		Note: Equivalent isotropic		
		radiation power may be		
		obtained by adding the		
		transmit antenna gain (dB)		
		to the power (dB) measured		
		at the input to the feeder.		
6	3.3(1)	The limit of secondary	The limit of secondary	In accordance
	5.5(±)	emissions <u>radiated from the</u>	emissions <u>shall be as</u>	with the
		receiving equipment shall	specified in Table 3-5.	partial
		be, in terms of the power at	Table 3:5_Limit of secondary radiated emissions-	revision to the
		<u>a dummy antenna circuit</u>	Antennar Frequency Range- Limit- Reference Pomer- Bandwidth- 100pW 1 GHz or lets- 4aW (six p) or	ORE
		that has the same electrical	100pW 1 GHz or less." 4aW (eirp) or less." 100 kHz." (eirp.) or	
		constant as the receiving	Other than interference the above-i 4mW or less-i iii (Note) einy: equivalent isotropic radiation power-i	
		antenna, 4nW or less when	лалож жейс адлиствачу подпулски папения Колайс.	

		measured using the circuit.		
7	3.3(4)	when the interfering signal	when the interfering signal	Clarification of
		modulated by a recurring	modulated by a recurring	condition
		binary digit pseudo-noise	binary digit pseudo-noise	
		signal having a code length	signal having a code length of	
		of 32767 bits <u>25 kHz</u> distant	32767 bits <u>respectively</u> from	
		from the desired signal	the desired signal is added,	
7	3.4(1)	i) The case where the radio	The case where the radio	In accordance
		equipment is not connected	equipment is not connected to	with the
		to telecommunications	a telecommunications circuit:	partial
		circuit facilities:	Function that automatically	revision to the
		In this case the either of	transmit or receive an	ORE
		the following functions is	identification code of the	
		required.	radio equipment used	
		① Function that	primarily in the same	
		automatically transmit or	premises.	
		receive an identification		
		code of the radio equipment		
		used primarily in the same		
		<u>premises.</u>		
		2 Function that		
		frequency switch or halt of		
		the radio emission can be		
		performed easily by users.		
8	3.4(3)	The transmission time	The transmission time	In accordance
		restricting device is a device	restricting device is a device	with NT No.88
		having functions that stop	having functions that stop	in 2012
		the radio emission within	the radio emission within <u>the</u>	
		the specified transmission	<u>following</u> transmission time	
		time after the radio	after the radio emission and	
		emission and resume the	resume the subsequent radio	
		subsequent radio emission	emission only after the	
		only after <u>the specified</u>	transmission halt time has	
		transmission halt time has	elapsed, or restrict the	

elapsed, or restrict the	duration of the emission
duration time of the	within the following duration
transmission within the	time and does not resume the
specified duration time and	radio emission before the
does not resume the radio	specified radio emission halt
emission before <u>the</u>	time has elapsed. The limits
specified transmission time	to the duration of the
has elapsed following the	emission shall be the
end of the communication.	following:
The limits to the duration	<u>The total time of the</u>
of the transmission <u>and the</u>	transmission per 5 seconds
transmission halt time	<u>shall be 1 second or less.</u>
shall be:	
<u>i) The case where antenna</u>	
power is 10mW or less:	
<u>The total time of the</u>	
<u>transmission per 5 seconds</u>	
<u>shall be 1 second or less.</u>	
ii) The case where antenna	
power is higher than 10mW	
The maximum duration	
time permitting continuous	
transmission shall be 600	
seconds and the radio	
emission halt time shall be	
<u>1 second. In the case where</u>	
<u>the emission is intended to</u>	
<u>be made exceeding 600</u>	
seconds, the emission shall	
be halted automatically	
when 600 seconds has	
<u>elapsed after the start of</u>	
the emission, and within	
<u>the emission halt time of 1</u>	
second the emission shall	

		not be resumed.		
8	3.4(4)	(ORE: Article 49.14 and NT:	The function of carrier sense	In accordance
		Article 49 in 1989)	is not required in radio	with NT No.88
		Function of carrier sense	<u>equipment.</u>	in 2012
		shall be the following.		
		i) The case where antenna		
		power is 10mW or less:		
		The function of carrier		
		sense is not required.		
		ii) The case where antenna		
		power is higher than10mW:		
		Function of carrier sense		
		shall be installed. Before		
		the radio equipment starts		
		new emission, carrier sense		
		shall be performed. The		
		level of the carrier sense		
		shall be 7µV or higher as		
		voltage induced in an		
		antenna with absolute		
		antenna gain of 2.14dB.		
8	3.5(1)	Not specified.	The structure of an antenna	In accordance
			has no feeder and grounding	with the
			device.	partial
				revision to
				ORE
8	3.5(2)	The absolute gain of the	The absolute gain of the	In accordance
		transmitting antenna shall	transmitting antenna shall	with the
		be 2.14dB or less.	be 2.14dB or less.	partial
		However, when the	When the equivalent	revision to
		equivalent isotropically	isotropically radiated power	ORE
		radiated power (e.i.r.p.) of	(e.i.r.p.) of the emitted radio	
		the emitted radio wave is	wave is less than the	
		less than the summation of	summation of 2.14dB and	

		2.14dB and antenna power	antenna power of <u>0.01W</u> , the	
		of 1W, the shortage of the	shortage of the eirp can be	
		e.i.r.p. can be compensated	compensated by increasing	
		by increasing the antenna	the antenna gain.	
		gain.		
9	3.6(1)	The radio equipment shall	The radio equipment	In accordance
		be housed in a single	<u>including an antenna</u>	with the
		cabinet that shall not be	<u>duplexer used in a</u>	partial
		able to be opened easily.	<u>centralized base station</u> shall	revision to
		This requirement, however,	be housed in a single cabinet	ORE
		does not apply to the	that <u>has no antenna</u>	
		following:	<u>connector</u> and hall not be able	
		i) Power-supply equipment	to be opened easily. This	
		ii) Control unit	requirement, however, does	
		iii) <u>Antenna</u>	not apply to the following:	
		iv) Display panel indicating	i) Power-supply equipment	
		the operating status of	ii) Control unit	
		transmitters and receivers	<u>iii)</u> Display panel indicating	
		v) Volume and squelch	the operating status of	
		controllers	transmitters and receivers	
		vi) Frequency switching	<u>iv)</u> Volume and squelch	
		unit	controllers	
		vii) Transmission/reception	<u>v)</u> Frequency switching unit	
		switchers	<u>vi)</u> Transmission and	
		viii) Associated unit and the	reception switchers	
		equivalent one	<u>vii)</u> Associated unit and the	
			equivalent one	
9	3.6(2)	(OTRCC: Article 8)	(OTRCC: Article 6)	Correction of
				error
11	Chapter 5	Measurement methods	Measurement methods shall	Review of the
		shall be in accordance with	<u>be in accordance with the</u>	description
		the Notification (Note 1) of	"TELEC-T246 the	
		the Ministry of Internal	measurement method of	
		Affairs and	radio equipment used for	
		•	•	۰

		Communications, which are	Animal Detection Report	
		specified in item 1(3) of	System Equipment for	
		Appended Table 1 of	Specified Low-power Radio	
		OTRCC.	Station", which was	
		<u>011000.</u>	established according to NT	
		For other test items which	No.88-2 issued on January	
		are not notified in the above	26, 2004, shall be applied.	
		methods, measurements	20, 2004, shan be applied.	
		methods generally used	For other test items which	
		<u>shall be applied.</u>	are not notified in the above	
		Note 1. This andinance	<u>methods</u> , <u>measurements</u>	
		Note 1: This ordinance	methods generally used shall	
		refers to Notification of	be applied. In the case where	
		Ministry of Internal Affairs	<u>measurement methods are</u>	
		and Communications No.88	specified in NT et al. the	
		<u>"Testing method for the</u>	<u>methods shall be applied.</u>	
		<u>characteristics</u>		
		examination" (January 26,	Note: For the measurement	
		2004) as of the date of issue	there are two cases: with a	
		of this revised standard	measurement port or without	
		(version 2.0 issued on July	<u>a measurement port. To</u>	
		<u>4, 2012). However, the</u>	enable prompt measurement	
		latest version of the	it is recommended to use the	
		Notification shall be	<u>measurement port.</u>	
		applied if the Notification		
		or contents of the		
		Notification is revised.		
13	Reference 1	(OTRCC: Appended Table	(OTRCC: Appended Table	In accordance
		No.1, and Examination for	<u>No.3</u> , <u>and Methods of</u>	with the
		Conformity Certification of	Examination Articles 4 and	partial
		<u>Technical Conditions</u>	<u>11)</u>	revisions to
		Compliance: Articles 6 and		OTRCC
		<u>25)</u>		
13	(1)	Intensity of <u>spurious</u>	Intensity of unwanted	Correction of

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		emission or unwanted	emission	error
		emission		
14	Reference 2	Delete	Reference 2	According to
	Guideline of		<u>Guideline of operation</u>	the upgrade of
	operation			the system in
				MIC, the
				guideline of
				operation was
				not needed.

Page	Paragraph No.	Content of Amendment	Old edition	Reason
	Foreword	This ARIB Standard is developed for "150 MHz Band Animal Detection Report System Equipment for Specified Low-Power Radio Station." In order to ensure fairness and transparency in the defining stage, the standard was set by consensus at the ARIB Standard Assembly with the participation of both domestic and foreign interested parties from radio equipment manufacturers, telecommunication operators, broadcasting equipment manufacturers, broadcasters and users. ARIB sincerely hopes that this ARIB Standard will be widely used by radio equipment manufacturers, telecommunication operators, broadcasting equipment manufacturers, broadcasters and users.	This ARIB Standard is developed for "150 MHz Band Animal Detection Report System Equipment for Specified Low-power Radio Station". In order to ensure fairness and transparency in the defining stage, the standard was set by consensus at the ARIB Standard Assembly with the participation of both domestic and foreign interested parties from radio equipment manufacturers, telecommunication operators, broadcasting equipment manufacturers, broadcasters and users. ARIB sincerely hopes that this ARIB Standard will be widely used by radio equipment manufacturers, telecommunication operators, broadcasting equipment manufacturers, broadcasters, users <u>and so on</u> .	Based on the review of description
	Foreword	Attachment 1 (None) (Selection of Option 1)		addition
		Attachment 2 (None) (Selection of Option 2)		

The 2.1th edition amendment history $% \left({{{\left({{{{{\bf{n}}}} \right)}}}} \right)$

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1	1.1	This standard defines	This standard defines	Reviewed in
		requirements for <u>animal</u>	requirements for <u>radio</u>	line with
		detection report system	equipment to send	RERL
		which is categorized as a	information or information	
		Specified Low-power Radio	processed for the purpose of	
		Station designated in Article	establishing animal detection	
		6 of the Regulations for	<u>report system</u> which is	
		Enforcement of the Radio	categorized as a Specified	
		Law. The system is <u>a radio</u>	Low-power Radio Station	
		system that makes radio	designated in Article 6 of the	
		communication used for	Regulations for Enforcement	
		mainly reporting the	of the Radio Law. The system	
		information about movement	is a radio system that makes	
		and status of animals in	radio communication used for	
		Japan with related control	mainly reporting the	
		information.	information about movement	
			and status of animals in	
			Japan and control	
			information.	
1	1.2	The radio station for the	The radio station for the	Review of
		animal detection report	detection report system <u>of</u>	description
		systemradio equipment	<u>animals</u> radio equipment	
		as shown in Figure 1.1.	as shown in Figure 1.1.	
1	1.2	Figure 1.1 Configuration of	Figure 1.1 Configuration of	Review of
		radio station for <u>animal</u>	radio station for detection	description
		detection report system	report system of an <u>imals</u>	
4	3.1(2)	Contents of communication	Contents of communication	Reviewed in
		(RERL: Article 6)	<u>(NT: No.42 in 1989)</u>	line with
		The content of	The content of	REAL
		communication shall be	communication shall be	
		related to mainly reporting	related to mainly reporting	
		the information about	the information about	
		movement and status of	movement, status of animals	

		animals with related control	and control information.	
		information.		
5	3.2(4)	(4) Frequency Tolerance	(4) Frequency Tolerance	In line with
		(ORE: Article 5, Appended	(ORE: Article 5, Appended	NT
		Table 1 and <u>NT: No.422 in</u>	Table 1 and <u>NT: No.50 in</u>	No.422 in
		2012)	<u>1989</u>)	2012)
		The frequency tolerance,	The frequency tolerance,	(NT No.50 in
		which is the maximum	which is the maximum	1989 was
		permissible tolerance from	permissible tolerance from	deleted.)
		the designated center	the designated center	
		frequency of the occupied	frequency of the occupied	
		frequency band of the emitted	frequency band of the emitted	
		signal, shall be $\pm 12 \times 10^{-6}$.	signal, shall be $\pm 12 \times 10^{-6}$.	
5	3.2(9)	(9) Leakage Power to	(9) Leakage Power to	Correction of
		Adjacent channel	Adjacent channel	error and
		(ORE: Article 49.14)	(ORE: Article 49.14,	reviewed in
		The leakage power radiated	NT:No.49 in 1989)	accordance
		to the adjacent channel of the	The leakage power radiated	with the
		bandwidth of ±8kHz	to the adjacent channel of the	revision to
		separated by 20 kHz from the	bandwidth of ±8kHz	ORE Article
		center frequency of the	separated by 20 kHz from the	No.49.14
		carrier shall be 1µW or less.	center frequency of the	
		However, when the absolute	carrier shall be $1\mu W$ or less	
		gain of a transmit antenna is	However, <u>regarding the radio</u>	
		<u>0dB or less,</u> the leakage	equipment having the	
		power shall be $1\mu W$ or less as	<u>absolute transmit antenna</u>	
		equivalent isotropic radiation	<u>gain of 0dB or less</u> , the	
		power (Note).	leakage power shall be 1µW	
		Note: Equivalent isotropic	or less as equivalent isotropic	
		radiation power may be	radiation power (Note).	
		obtained by adding the	Note: Equivalent isotropic	
		transmit antenna gain (dB)	radiation power may be	
		to the power (dB) measured	obtained by adding the	
		at the input to the feeder.	transmit antenna gain (dB)	

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			to the power (dB) measured	
			at the input to the feeder.	
8	3.4(3)	ii) The case where antenna	ii) The case where antenna	In accordance
		power is higher than 10mW	power is higher than 10mW	with NT
		The maximum duration time	The maximum duration time	No.281 in 2014
		permitting continuous	permitting continuous	
		emission shall be 600 seconds	emission shall be 600 seconds	
		and the radio emission halt	and the radio emission halt	
		time shall be 1 second.	time shall be 1 second.	
		In the case where the	In the case where the	
		emission is intended to be	emission is intended to be	
		made exceeding 600 seconds,	made exceeding 600 seconds,	
		the emission shall be halted	the emission shall be halted	
		automatically at 600 seconds	automatically at 600 seconds	
		after the start of the	after the start of the	
		emission, and within the	emission, and within the	
		emission halt time of 1	emission halt time of 1	
		second the emission shall not	second the emission shall not	
		be resumed.	be resumed.	
		In the case where the		
		duration of the continuous		
		emission is less than 600		
		seconds, the emission can be		
		resumed immediately.		
	Chapter 4	(1) Identification Code	(1) Identification Code	Correction of
	(1)	Identification code, which is	Identification code, which is	error
		used to identify a	used to identify a	
		transmitting station at an	transmitting station at an	
		opposite site by checking the	opposite site by checking the	
		code before establishing a	code before establishing a	
		communication line and is	communication line and is	
		generally included in a	generally included in a	
		control signal, shall be	control signal, shall be	
		comprised of <u>48 bits or more</u> .	comprised of <u>48 bits</u> .	

11	Chapter 5	Note 1: This ordinance refers	Note 1: This ordinance refers	Issue of
		to Notification of Ministry of	to Notification of Ministry of	Version 2.1
		Internal Affairs and	Internal Affairs and	
		Communications No.88 "The	Communications No.88	
		testing method for the	"Testing method for the	
		characteristics examination"	characteristics examination"	
		(January 26, 2004) as of the	(January 26, 2004) as of the	
		date of issue of this revised	date of issue of this revised	
		standard (<u>version 2.1</u> issued	standard (<u>version 2.0</u> issued	
		<u>on July 3, 2015</u>). However,	<u>on July 3, 2012</u>). However,	
		the latest version of the	the latest version of the	
		Notification shall be applied	Notification shall be applied	
		if the Notification or contents	if the Notification or contents	
		of the Notification is revised.	of the Notification is revised.	

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150 MHz Band Animal Detection Report System Equipment

for Specified Low-power Radio Station

ARIB STANDARD

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