



# TEST REPORT

No. 25T04Z100627-001

for

**Japan Radio Co., Ltd.**

**Product Name: CBRS eNodeB**

**Model Name: JRL-1411**

**FCC ID: CKEJRL-1411**

**with**

**Hardware Version: JRL-1411**

**Software Version: JR\_1.1.1**

**Issued Date: 2025-07-07**

**Note:**

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

**Test Laboratory:**

**CTTL-Telecommunication Technology Labs, CAICT**

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## REPORT HISTORY

Report Number	Revision	Description	Issue Date
25T04Z100627-001	Rev.0	1 <sup>st</sup> edition	2025-07-07

Note: the latest revision of the test report supersedes all previous version.

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## 1. Test Laboratory

### 1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2017 accredited test laboratory under American Association for Laboratory Accreditation (A2LA) with lab code 7049.01, and is also an FCC accredited test laboratory (CN1349), and ISED accredited test laboratory (CAB identifier:CN0066). The detail accreditation scope can be found on A2LA website.

### 1.2. Testing Location

Location 1: CTTL(huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China  
100191

### 1.3. Testing Environment

Normal Temperature: 15-35°C

Relative Humidity: 20-75%

### 1.4. Project data

Testing Start Date: 2025-07-04

Testing End Date: 2025-07-07

### 1.5. Signature



Zhang Ying

(Prepared this test report)



An Hui

(Reviewed this test report)



Shi Suolan

(Approved this test report)

## **2. Client Information**

### **2.1. Applicant Information**

Company Name: Japan Radio Co., Ltd.  
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### **2.2. Manufacturer Information**

Company Name: Japan Radio Co., Ltd.  
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### **3. Equipment Under Test (EUT) and Ancillary Equipment (AE)**

#### **3.1. About EUT**

Description	CBRS eNodeB
Model Name	JRL-1411
FCC ID	CKEJRL-1411

Note: The EUT functions are described in Annex A of this test report. Specifications of the EUT were provided to fulfil the test. Samples undergoing test were selected by the client. Components list, please refer to documents of the manufacturer; it is also included in the original test record of CTTL, Telecommunication Technology Labs, CAICT

#### **3.2. Internal Identification of EUT**

EUT ID*	SN or IMEI	HW Version	SW Version
UT02a	1202000466241RB0007	JRL-1411	JR_1.1.1

\*EUT ID: is used to identify the test sample in the lab internally. The HW and SW version information were provided by the applicant.

#### **3.3. Internal Identification of AE**

AE ID*	Description	Model	Manufacturer	Note
AE1	Adapter	S24B72-120A200-C4	Shenzhen Gongjin Electronics Co., Ltd.	---

\*AE ID: is used to identify the test sample in the lab internally.

Note: The test samples listed above were selected and prepared by the applicant.

#### **3.4. EUT set-ups**

EUT set-up No.	Combination of EUT and AE	Remarks
Set.1	UT02a + AE1	/

## 4. Reference Documents

### 4.1. Documents supplied by applicant

EUT parameters, referring to Annex A for detailed information, were supplied by the client or manufacturer, which is the basis of testing. CAICT is not responsible for the accuracy of customer supplied technical information that may affect the test results (for example, antenna gain and loss of customer supplied cable).

### 4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part 15, Subpart B	Radio frequency devices - Unintentional Radiators	2023
ANSI C63.4	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2014

Note: The test methods have no deviation with standards.

## 5. Test Results

Abbreviations used in this clause:		
Verdict Column	P	Pass
	F	Fail
	BR	Re-use test data from basic model report.
	NA	Not applicable
	NM	Not measured

Items	Test Name	Clause in FCC rules	Section in this report	Verdict	Test Location
1	Radiated Emission	15.109(a)	B.1	P	CTTL(huayuan North Road)
2	Conducted Emission	15.107(a)	B.2	P	CTTL(huayuan North Road)

## 6. Test Facilities Utilized

### Test instruments list:

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due date	Calibration Period
1	LISN	ENV216	101200	R&S	2026-06-05	1 year
2	Test Receiver	ESCI	100344	R&S	2026-04-01	1 year
3	Test Receiver	ESW44	103023	R&S	2026-05-07	1 year
5	EMI Antenna	VULB 9163	01222	SCHWARZBECK	2025-09-11	1 year
6	EMI Antenna	3115	6914	ETS-Lindgren	2026-03-31	1 year

### Test software list:

Test Item	Test Software	Software Vendor
Conducted emission	EMC32 V8.53.0	R&S
Radiated emission	EMC32 V11.50.00	R&S

### Semi-anechoic chamber utilized did not exceed following limits along the testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 15 %, Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz, >60dB; 1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4 Ω
Normalised site attenuation (NSA)	< ±4 dB, 10 m distance
Site voltage standing-wave ratio ( $S_{VSWR}$ )	Between 0 and 6 dB, from 1GHz to 6GHz

### Shielded room utilized did not exceed following limits along the testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 20 %, Max. = 75 %
Shielding effectiveness	0.014MHz-1MHz, >60dB; 1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4 Ω

## 7. Measurement Uncertainty

Where relevant, the following measurement uncertainty(worse case) levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

### Location 1: CTTL(Huayuan North Road)

Test item	Frequency ranges	Measurement uncertainty
Radiated Emission	30MHz-1GHz	4.72dB( $k=2$ )
	1GHz-6GHz	4.84dB( $k=2$ )
Conducted Emission	150kHz-30MHz	AC Power Line: 3.08dB( $k=2$ )

## ANNEX A: EUT parameters

Cellular Bands	<input type="checkbox"/> GSM	Band
	<input type="checkbox"/> CDMA	Band
	<input type="checkbox"/> WCDMA	Band
	<input checked="" type="checkbox"/> LTE	Band 48 Channel Bandwidth: 10/20 MHz Modulation: UL: QPSK, 16QAM, 64QAM DL: QPSK, 16QAM, 64QAM, 256QAM
	<input type="checkbox"/> 5G	Band
Other	<input checked="" type="checkbox"/> GNSS	<input checked="" type="checkbox"/> GPS <input type="checkbox"/> BDS <input type="checkbox"/> Gallileo <input type="checkbox"/> Glonass
	<input type="checkbox"/> FM <input type="checkbox"/> MP3 <input type="checkbox"/> MP4 <input type="checkbox"/> Camera <input type="checkbox"/> USB data <input type="checkbox"/> NFC	
Power Supply	12VDC AC adaptor (multi-national standards)	

## **ANNEX B: Detailed Test Results**

### **B.1. Radiated Emission**

**Reference:** FCC Part 15.109(a).

**Method of measurement:** The field strength of radiated emissions from the unintentional radiator at distances of 3/10 meters(for 30MHz-1GHz) and 3 meters (for above 1GHz) were tested. The test was in accordance with the procedures of ANSI C63.4 – 2014, section 8.3.

The EUT was placed on a non-conductive table. The measurement antenna was placed at the specified distance from the EUT. During the test, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

**EUT operating mode:** The EUT was operating in the charging mode. During the test, the EUT was connected to a charger in the case of charging mode. All equipment was placed on the test table top and arranged in a typical configuration in accordance with ANSI C63.4-2014 and manipulated to obtain worst case emissions.

#### **Measurement limit:**

Frequency range (MHz)	Field strength limit ( $\mu$ V/m)		
	Quasi-peak	Average	Peak
30-88	100		
88-216	150		
216-960	200		
960-1000	500		
>1000		500	5000

Note: the above limit is for 10 meters test distance. The limits for 3 meters distance is got by converting: Limit(10m) = Limit(3m) + 20[log(3/10)], which is according to FCC 15.109(g)(2)

#### **Test settings:**

Frequency range (MHz)	RBW/VBW	Sweep Time (s)	Detector
30-1000	120kHz (IF Bandwidth)	5	Peak/Quasi-peak
Above 1000	1MHz/3MHz	15	Peak, Average

#### **Measurement results:**

A "reference path loss" is established and the  $A_{RPL}$  is the attenuation of "reference path loss". It includes the antenna factor of receive antenna and the path loss.

The measurement results are obtained as described below:

$$\text{Result} = P_{\text{Mea}} + A_{\text{RPL}} = P_{\text{Mea}} + G_A + G_{PL}$$

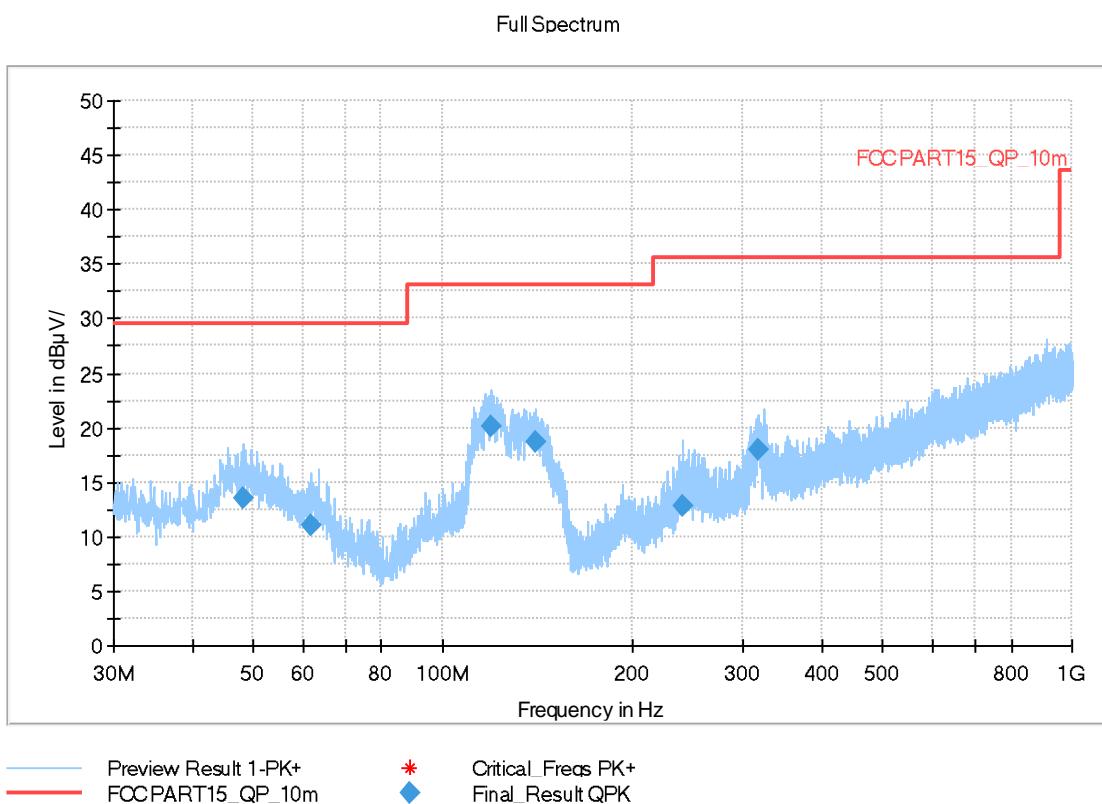
Where

$G_A$ : Antenna factor of receive antenna

$G_{PL}$ : Path Loss

$P_{Mea}$ : Measurement result on receiver.

Note: The measurement results showed as followed are worst cases, and the combinations of different batteries, cables and headsets were considered if applicable.

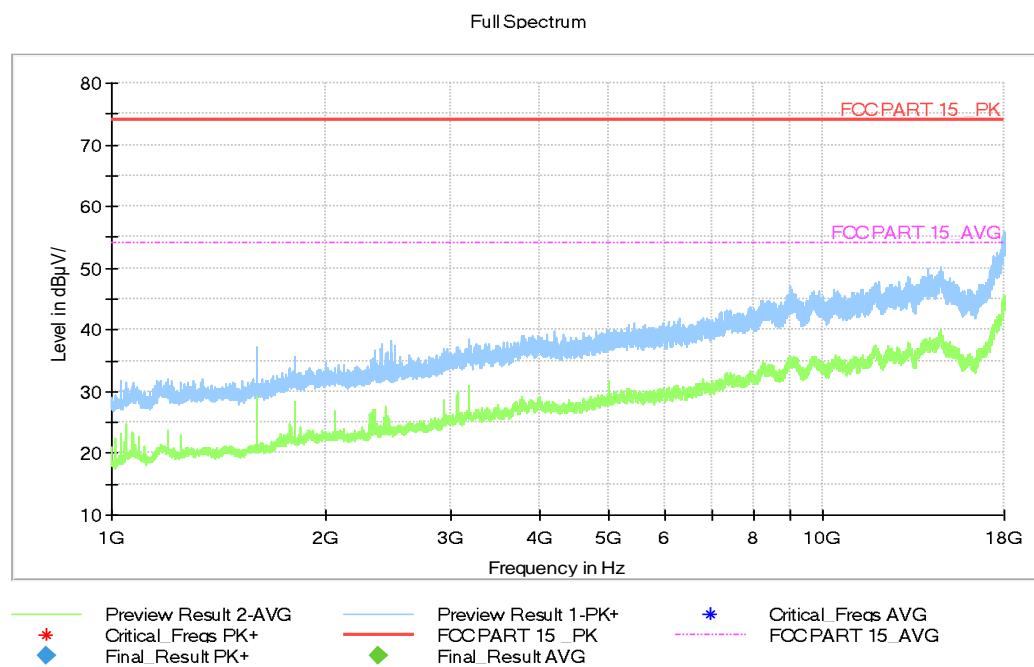


**Figure A.1 Radiated Emission from 30MHz to 1GHz**

#### QP detector

Frequency (MHz)	QuasiPeak (dB $\mu$ V/m)	Limit (dB $\mu$ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)
48.284500	13.56	29.54	15.98	100.0	V	285.0
61.719000	10.95	29.54	18.59	193.0	V	225.0
119.822000	20.19	33.06	12.87	125.0	V	6.0
140.046500	18.60	33.06	14.46	117.0	V	8.0
240.829500	12.86	35.56	22.70	117.0	V	306.0
316.538000	17.88	35.56	17.68	125.0	V	46.0

**Figure A.2 Radiated Emission from 1GHz to 3GHz**



**Figure A.3 Radiated Emission from 3GHz to 18GHz**

**Average detector**

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
2410.300	69.77	-39.04	28.40	80.41	54.00	-15.77	H
2411.000	69.66	-39.04	28.40	80.30	54.00	-15.66	H
2410.700	69.61	-39.04	28.40	80.25	54.00	-15.61	H
2410.000	69.09	-39.04	28.40	79.73	54.00	-15.09	H
2409.600	69.00	-39.04	28.40	79.64	54.00	-15.00	H
2409.300	68.21	-39.04	28.40	78.85	54.00	-14.21	H

**Peak detector**

Frequency (MHz)	Measurement Result (dB $\mu$ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB $\mu$ V)	Limit (dB $\mu$ V/m)	Margin (dB)	Antenna Pol. (H/V)
17967.400	55.82	-26.80	45.40	37.22	74.00	18.18	H
17969.700	55.80	-26.80	45.40	37.20	74.00	18.20	V
17972.500	55.52	-26.80	45.40	36.92	74.00	18.48	V
17965.000	55.30	-26.80	45.40	36.70	74.00	18.70	H
17979.300	55.15	-26.80	45.40	36.55	74.00	18.85	H
17937.800	55.06	-26.80	45.40	36.46	74.00	18.94	H

## B.2. Conducted Emission

**Reference:** FCC: Part 15.107(a).

**Method of measurement:** For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits. Tested in accordance with the procedures of ANSI C63.4 – 2014, section 7.3.

**EUT operating mode:** The EUT is operating in the charging mode.

**Measurement limit:**

Frequency of emission (MHz)	Conducted limit (dB $\mu$ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

\*Decreases with the logarithm of the frequency

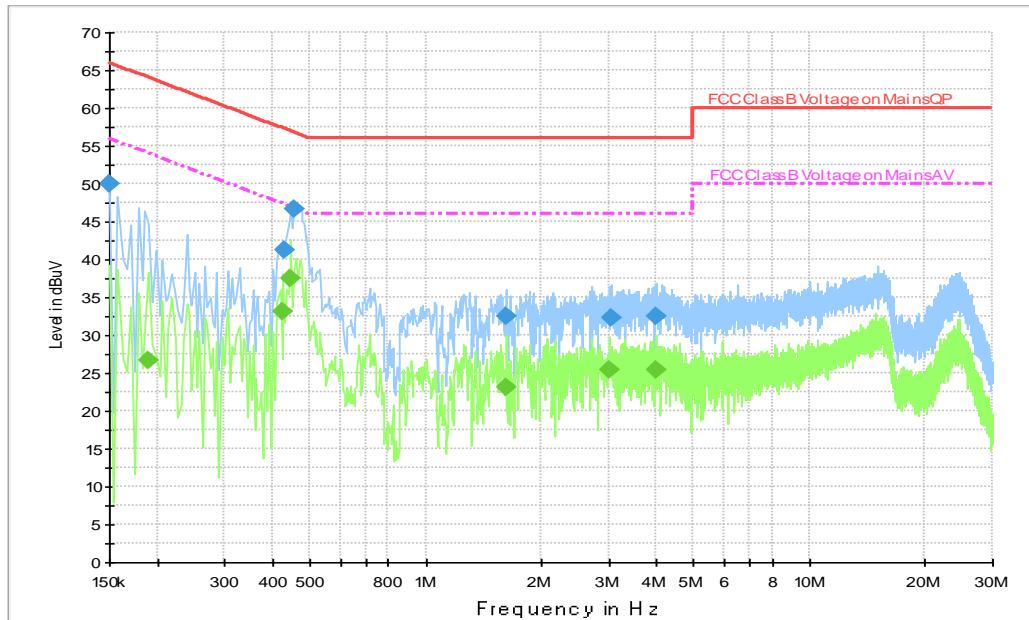
**Test Settings:**

Voltage(V)	Frequency(Hz)
120	60

RBW/IF bandwidth	Sweep Time(s)
9kHz	1

**Measurement results:**

The measurement results showed as followed are worst cases, and the combinations of different batteries, cables and headsets were considered if applicable.

**Charger, Set.1**

**Figure A.5 Conducted Emission**
**Final Result 1**

Frequency (MHz)	QuasiPeak (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	50.1	L1	20.1	15.9	66.0
0.430000	41.2	L1	20.0	16.1	57.3
0.454000	46.7	N	19.9	10.1	56.8
1.618000	32.5	N	19.7	23.5	56.0
3.042000	32.3	N	19.6	23.7	56.0
3.982000	32.6	N	19.6	23.4	56.0

**Final Result 2**

Frequency (MHz)	CAverage (dBµV)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.190000	26.6	N	19.8	27.4	54.0
0.426000	33.1	N	19.9	14.2	47.3
0.446000	37.4	N	19.9	9.5	46.9
1.618000	23.1	N	19.7	22.9	46.0
3.010000	25.4	N	19.6	20.6	46.0
3.974000	25.5	N	19.6	20.5	46.0

### **ANNEX C: Persons involved in this testing**

Test Item	Tester
Radiated Emission	Zhang Tianli
Conducted Emission	Li Pengfei

**\*\*\*END OF REPORT\*\*\***