

Ericsson AB

RF TEST REPORT

Report Type:

FCC Part 22 RF report

PRODUCT NAME:

Radio 4499 44B26 44B71 C

REPORT NUMBER:

221102039SHA-001

ISSUE DATE:

December 5, 2022

DOCUMENT CONTROL NUMBER:

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Applicant: Ericsson AB
Isafjordsgatan 10 SE-164 80 Stockholm 16480 Sweden

Manufacturer: Ericsson AB
Isafjordsgatan 10 SE-164 80 Stockholm 16480 Sweden

FCC ID: TA8AKRC1610016-1

IC: 287AB-AS16100161

SUMMARY:

The equipment complies with the requirements according to the following standard(s) or Specification:

FCC CFR 47 Part 22: PUBLIC MOBILE SERVICES

RSS-132 Issue 3: Cellular Telephone Systems Operating in the Bands 824-849 MHz and 869-894 MHz

PREPARED BY:

REVIEWED BY:

Project Engineer
Victor Yang

Reviewer
Jackson Huang

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TEST REPORT

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Revision History

Report No.	Version	Description	Issued Date
221102039SHA-001	Rev. 01	Initial issue of report	December 5, 2022

Measurement result summary

TEST ITEM	FCC REFERANCE	IC REFERANCE	RESULT
Max Output Power and Peak to Average Power Ratio and EIRP	22.913(a), 2.1046	RSS-132 5.4	Pass ¹
Occupied Bandwidth	22.917(b) 2.1049	RSS-GEN 6.7	Pass
Unwanted Emissions at Band Edge	22.917, 2.1051	RSS-132 5.5	Pass
Conducted Unwanted Emission	22.917, 2.1051	RSS-132 5.5	Pass
Radiated Unwanted Emissions	22.917, 2.1051	RSS-132 5.5	Pass
Frequency Stability	22.355, 2.1055	RSS-132 5.3	Pass
Receiver Spurious Emissions	-	RSS-132 5.6	NA ²

Note1: The DUT is tested without antenna. EIRP compliance is addressed at the time of licensing.

Licensees are required to take into account maximum allowed antenna gain used in combination with above power settings to prevent the radiated output power to exceed the limits.

Note 2: EUT is a FDD radio product, it can transmit and receive simultaneously using the common transceiver ports. The same published spurious emission levels are valid for both transmit and receive mode.

1 GENERAL INFORMATION

1.1 Description of Equipment Under Test (EUT)

Description:	Remote Radio Unit
Product name:	Radio 4499 44B26 44B71 C
Product number:	KRC 161 0016/1
HVIN	AS16100161
Serial Number(s)	E2074Y0051
Rating:	-48V DC
Software Version:	PIS: CXP9017316%7_R91LA
Hardware Version:	R1B
Sample received date:	September 8, 2022
Date of test:	September 8, 2022 ~ November 18, 2022

1.2 Technical Specification

Frequency Range:	B26: RX: 814MHz-849MHz, TX: 859MHz-894MHz B71: RX: 663MHz-698MHz, TX: 617MHz-652MHz
Number of Antenna ports:	4 TX/RX
Supported RAT:	B26: SRO: WCDMA, LTE, NB-IoT(IB,GB,SA), NR MRO: WCDMA, GSM, LTE with NB-IoT (IB,GB,SA), NR with NB-IoT(IB) B71: SRO/MRO: NR, LTE, NB-IoT(IB,GB,SA), NR with NB-IoT(IB)
Supported other mode:	/
Max RF bandwidth (IBW):	B26: 35MHz B71: 35MHz Note: for narrow channel bandwidth carriers like GSM, NB-IoT standalone, LTE1.4MHz and 3MHz, the IBW is 20MHz.
Supported Number of Carriers:	12 carriers per port; 6 carriers per port per band
Supported modulation:	GSM: GMSK, 8PSK, AQPSK WCDMA: QPSK, 16QAM, 64QAM LTE, NR: QPSK, 16QAM, 64QAM, 256QAM NB-IoT: QPSK
Supported Channel Bandwidth:	B26: LTE: 1.4MHz, 3MHz, 5MHz, 10MHz,15MHz and 20MHz NR: 5MHz, 10MHz,15MHz and 20MHz with SCS 15KHz B71: LTE:5MHz, 10MHz, 15MHz, 20MHz NR: 5MHz,10MHz,15MHz,20MHz with SCS 15kHz
Declaration output power:	Maximum 80W(49dBm) per port. (Maximum 60W(47.8dBm) for B26 per port; Maximum 40W(46dBm) for B71 per port) Note: for narrow channel bandwidth carriers like GSM, LTE1.4MHz and 3MHz, max 20W(43dBm) per carrier; for NB-IoT standalone the max output power is 20W per port; for 5MHz channel bandwidth carriers like WCDMA, LTE, NR, max 40W (46dBm) per carrier.
Antenna Gain:	No dedicated antenna, handled during licensing

1.3 Description of Test Facility

Conducted testing:

Name:	Intertek Testing Services Shanghai
Address 1:	Building 86, No. 1198 Qinzhou Road(North), Shanghai 200233, P.R. China
Address 2:	No. 5 Lize East Street, Ericsson Tower, Chaoyang District, Beijing 100102 P.R.C.
Telephone:	+86 21 61278200
Telefax:	+86 21 54262353
The test facility is recognized, certified, or accredited by these organizations:	FCC Accredited Lab Designation Number: CN0175, CN1258
	IC Registration Lab CAB identifier.: CN0014
	A2LA Accreditation Lab Certificate Number: 3309.02, 3309.04

Radiated testing:

Name:	BEIJING BOOMWAVE TEST SERVICE CO. LTD.
Address:	EMC Building, No. 1 Wang Jing East Road Chao Yang District, Beijing, 100102 P.R.C.
Telephone:	+86 10 64711866 806
The test facility is recognized, certified, or accredited by these organizations:	FCC Accredited Lab Designation Number: CN1242
	IC Registration Lab CAB identifier.: CN0010
	A2LA Accreditation Lab Certificate Number: 4992.01

2 TEST SPECIFICATIONS

2.1 Related documents

FCC Part 22 (2021)
FCC Part 2 (2021)
RSS-132 issue 3 January 2013
RSS-Gen issue 5 March 2019 Amendment 1
ANSI C63.26:2015
KDB 971168 D01 v03r01
KDB 662911 D01 v02r01

2.2 Product Information

The Equipment Under Test (EUT) is an Ericsson Remote Radio Unit working in the wireless communications services 600MHz & 800MHz band which provides communication connections to network in WCDMA / LTE / NB-IoT / NR / GSM modes and MSR modes. The Radio 4499 44B26 44B71 C operates from a -48V DC power supply.

The EUT includes 4 TX/RX ports and it can be configured to transmit in MIMO mode, and MIMO mode was used for measurements as the worst configuration. The complete testing was performed with the EUT transmitting at maximum RF power unless otherwise stated.

A full technical description can be found in the Manufacturer's documentation.

This report is for 869MHz-894MHz, other band is covered in another report (221102037SHA-001 & 221102038SHA-001).

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2.3 Configuration Description

The following settings were used to representative for all traffic scenarios when settings with different modulations, channel bandwidths, number for carriers and RF configurations have been tested to find the worst-case setting. The settings below were used for all measurements unless otherwise noted:

W

Configuration	Carrier	W Carrier BW (MHz)	Carrier Frequency Configuration		
			Bottom	Middle	Top
W-1C	1	5	871.4	881.4	891.6
W-2C	2	5	-	871.4+891.6	-
W-5C	5	5	-	871.4+876.4+881.4+886.6+891.6	-

NR

Configuration	Carrier	NR Carrier BW (MHz)	Carrier Frequency Configuration		
			Bottom	Middle	Top
NR-1C	1	5	871.5	881.5	891.5
		10	874.0	881.5	889.0
		15	876.5	881.5	886.5
		20	879.0	881.5	884.0
NR-2C	2	5	-	871.5+891.5	-
		10	-	874.0+889.0	-
NR-5C	5	5	-	871.5+876.5+881.5+886.5+891.5	-

LTE

Configuration	Carrier	LTE Carrier BW (MHz)	Carrier Frequency Configuration		
			Bottom	Middle	Top
LTE-1C	1	1.4	869.7	881.5	893.3
		3	870.5	881.5	892.5
		5	871.5	881.5	891.5
		10	874.0	881.5	889.0
		15	876.5	881.5	886.5
		20	879.0	881.5	884.0
LTE-2C	2	1.4	-	872.2+890.8	-
		3	-	873.0+890.0	-
		5	-	871.5+891.5	-
		10	-	874.0+889.0	-
LTE-6C	6	1.4	-	872.2+873.6+875.0+888.0+889.4+890.8	-
		3	-	873.0+876.0+879.0+884.0+887.0+890.0	-