

# RADIO TEST REPORT

Type of assessment:

**MPE Calculation report**

Manufacturer:

**Ericsson AB**

Hardware Version Identification Number (HVIN):

**AS1610056**

Product Marketing Name (PMN):

**Radio 4495HP 44B71 44B85A C**

Part number:

**KRC 161 0056/31**

FCC ID:

**TA8AKRC1610056**

ISED certification number:

**IC: 287AB-AS1610056**

Specification:

- ◆ FCC 47 CFR Part 1 Subpart I, §§1.1307, 1.1310
- ◆ FCC 47 CFR Part 2 Subpart J, §2.1091
- ◆ FCC KDB 447498 D01 General RF Exposure Guidance v06
- ◆ ISED Canada RSS-102 Issue 6 December 15, 2023

## RSS-102 - Declaration of RF Exposure Compliance

ATTESTATION: I attest that, Annex A and the Technical Brief information was prepared by me and is correct; that the device evaluation was performed or supervised by me; that applicable measurement and evaluation methodologies have been followed; and that the device meets the SAR, APD and/or IPD limits of RSS-102.

Date of issue: May 21, 2025

**Andrey Adelberg, Senior EMC/RF Specialist**

Prepared by



Signature

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ANAB File Number: AT-3195 (Ottawa/Almonte); AT-3193 (Pointe-Claire); AT-3194 (Cambridge)



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Test site identifier	<b>Organization</b> FCC: ISED:	<b>Ottawa/Almonte</b> CA2040 2040A-4	<b>Montreal</b> CA2041 2040G-5	<b>Cambridge</b> CA0101 24676
Website	<a href="http://www.nemko.com">www.nemko.com</a>			

## Limits of responsibility

Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.

This test report has been completed in accordance with the requirements of ISO/IEC 17025. All results contained in this report are within Nemko Canada's ISO/IEC 17025 accreditation.

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## Section 1 Evaluation summary

### 1.1 MPE calculation for standalone transmission

#### 1.1.1 References, definitions and limits

##### FCC §2.1091(d)

- (2) (2) For operations within the frequency range of 300 kHz and 6 GHz (inclusive), the limits for maximum permissible exposure (MPE), derived from whole-body SAR limits and listed in Table 1 in paragraph (e)(1) of this section, may be used instead of whole-body SAR limits as set forth in paragraphs (a) through (c) of this section to evaluate the environmental impact of human exposure to RF radiation as specified in §1.1307(b) of this part, except for portable devices as defined in §2.1093 of this chapter as these evaluations shall be performed according to the SAR provisions in §2.1093.

**Table 1.1-1: Table 1 to §1.1310(e)(1)—Power Density Limits for Maximum Permissible Exposure (MPE)**

Frequency range (MHz)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>(i) Limits for Occupational/Controlled Exposure</b>		
0.3–3.0	*(100)	≤6
3.0–30	*(900 / f <sup>2</sup> )	<6
30–300	1.0	<6
300–1500	f / 300	<6
1500–100000	5	<6
<b>(ii) Limits for General Population/Uncontrolled Exposure</b>		
0.3–1.34	*(100)	<30
1.34–30	*(180 / f <sup>2</sup> )	<30
30–300	0.2	<30
300–1500	f / 1500	<30
1500–100000	1.0	<30

Notes: f = frequency in MHz. \* = Plane-wave equivalent power density.

## References, definitions and limits, continued

**RSS-102, Section 5.3.2**

The electric and magnetic field strength reference levels, power density reference levels, and associated reference period for devices employed by the general public (uncontrolled environment) and controlled-use devices (controlled environment) are specified in table below. Note that the power density limits specified in these tables apply to whole body exposure conditions.

**Table 1.1-2: RSS-102— Power density limits**

Frequency range (MHz)	Power density (W/m <sup>2</sup> )	Power density (mW/cm <sup>2</sup> )	Reference Period (minutes)
<b>Limits for controlled-use devices (controlled environment)</b>			
10–20	10	1	6
20–48	44.72 / f <sup>0.5</sup>	4.472 / f <sup>0.5</sup>	6
48–100	6.455	0.6455	6
100–6000	0.6455 f <sup>0.5</sup>	0.06455 f <sup>0.5</sup>	6
6000–15000	50	5	616000 / f <sup>1.2</sup>
15000–30000	3.33×10 <sup>-4</sup> f	0.333×10 <sup>-4</sup> f	616000 / f <sup>1.2</sup>
<b>Limits for devices used by the general public (uncontrolled environment)</b>			
10–20	2	0.2	6
20–48	8.944 / f <sup>0.5</sup>	0.8944 / f <sup>0.5</sup>	6
48–300	1.291	0.1291	6
300–6000	0.02619 f <sup>0.6834</sup>	0.002619 f <sup>0.6834</sup>	6
6000–15000	10	1	616000 / f <sup>1.2</sup>
15000–30000	6.67×10 <sup>-5</sup> / f	0.667×10 <sup>-5</sup> / f	616000 / f <sup>1.2</sup>

Notes: f = frequency in MHz.

The above table refers to Health Canada's Safety Code 6 for relevant notes and additional information.

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{PG}{4\pi R^2}$$

where: S = power density (mW/cm<sup>2</sup> or W/m<sup>2</sup>)  
P = power input to the antenna (mW or W)  
G = power gain of the antenna in the direction of interest relative to an isotropic radiator  
R = distance to the center of radiation of the antenna (cm or m)

## 1.1.2 EUT technical information for B71

Prediction frequency	634.5 MHz
Antenna gain	15.7 dBi
Path loss	3 dB
Number of antennas	4
Maximum transmitter power	48.79 dBm (conducted per port)

## 1.1.3 MPE calculation for B71

Fundamental transmit (prediction) frequency:	634.5 MHz
Maximum measured conducted peak output power:	48.79 dBm
Cable and/or jumper loss:	3 dB
Maximum peak power at antenna input terminal:	45.79 dBm
Duty cycle:	100 %
Maximum calculated average power at antenna input terminal:	37931.50 mW
Single Antenna gain (typical):	15.7 dBi
Number of antennae:	4
Total system gain:	21.72 dBi

## FCC calculations

## ISED calculations

## Uncontrolled environment

Declared distance:	1030 cm	1444 cm
Average power density at declared distance:	0.422840 mW/cm <sup>2</sup> 4.228396 W/m <sup>2</sup>	0.215137 mW/cm <sup>2</sup> 2.151373 W/m <sup>2</sup>
MPE limit at prediction frequency:	0.423000 mW/cm <sup>2</sup> 4.230000 W/m <sup>2</sup>	0.215436 mW/cm <sup>2</sup> 2.154355 W/m <sup>2</sup>
Minimum calculated prediction distance for compliance:	1030 cm	1443 cm
Margin of Compliance:	0.00 dB	0.01 dB
with Maximum permitted antenna gain:	21.72 dBi	21.73 dBi

## Controlled environment

Declared distance:	461 cm	525 cm
Average power density at declared distance:	2.115000 mW/cm <sup>2</sup> 21.150000 W/m <sup>2</sup>	1.625968 mW/cm <sup>2</sup> 16.259682 W/m <sup>2</sup>
MPE limit at prediction frequency:	2.115000 mW/cm <sup>2</sup> 21.150000 W/m <sup>2</sup>	1.625968 mW/cm <sup>2</sup> 16.259682 W/m <sup>2</sup>
Minimum calculated prediction distance for compliance:	461 cm	525 cm
Margin of Compliance:	0.00 dB	0.00 dB
with Maximum permitted antenna gain:	21.73 dBi	21.72 dBi

## 1.1.4 EUT technical information for B85A

Prediction frequency	733 MHz
Antenna gain	15.7 dBi
Path loss	3 dB
Number of antennas	4
Maximum transmitter power	45.86 dBm (conducted per port)

## 1.1.5 MPE calculation for B85A

Fundamental transmit (prediction) frequency:	733 MHz
Maximum measured conducted peak output power:	45.86 dBm
Cable and/or jumper loss:	3 dB
Maximum peak power at antenna input terminal:	42.86 dBm
Duty cycle:	100 %
Maximum calculated average power at antenna input terminal:	19319.68 mW
Single Antenna gain (typical):	15.7 dBi
Number of antennae:	4
Total system gain:	21.72 dBi

## FCC calculations

## ISED calculations

## Uncontrolled environment

Declared distance:	684 cm	981 cm
Average power density at declared distance:	0.488358 mW/cm <sup>2</sup> 4.883576 W/m <sup>2</sup>	0.237417 mW/cm <sup>2</sup> 2.374172 W/m <sup>2</sup>
MPE limit at prediction frequency:	0.488667 mW/cm <sup>2</sup> 4.886667 W/m <sup>2</sup>	0.237765 mW/cm <sup>2</sup> 2.377648 W/m <sup>2</sup>
Minimum calculated prediction distance for compliance:	684 cm	980 cm
Margin of Compliance:	0.00 dB	0.01 dB
with Maximum permitted antenna gain:	21.72 dBi	21.73 dBi

## Controlled environment

Declared distance:	306 cm	362 cm
Average power density at declared distance:	2.443333 mW/cm <sup>2</sup> 24.433333 W/m <sup>2</sup>	1.747625 mW/cm <sup>2</sup> 17.476249 W/m <sup>2</sup>
MPE limit at prediction frequency:	2.443333 mW/cm <sup>2</sup> 24.433333 W/m <sup>2</sup>	1.747625 mW/cm <sup>2</sup> 17.476249 W/m <sup>2</sup>
Minimum calculated prediction distance for compliance:	306 cm	362 cm
Margin of Compliance:	0.00 dB	0.00 dB
with Maximum permitted antenna gain:	21.73 dBi	21.73 dBi

## 1.1.6 Verdict

The calculation is below the limit; therefore, the product is passing the RF Exposure requirements for the declared distance.

## End of the test report