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RADIO TEST REPORT – 464419APFWL

Type of assessment:

MPE Calculation report

Applicant:

Intracom S.A. Telecom Solutions

Product:

PtMP/PtP Gigabit Terminal Radio 27-29 GHz

Model:

WG5-CONN-PLUS-HP-27-29

Brand:

WiBAS G5 Connect+

FCC ID:

2AHZC-G5CONPL2729

Specifications:

- 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

Date of issue: April 27, 2022

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Prepared by

Signature

Lab locations

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Test site identifier	**Organization**	**Ottawa/Almonte**	**Montreal**	**Cambridge**
	FCC:	CA2040	CA2041	CA0101
	ISED:	2040A-4	2040G-5	24676
Website	www.nemko.com			

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)—Limits for Maximum Permissible Exposure (MPE)*

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(i) Limits for Occupational/Controlled Exposure				
0.3–3.0	614	1.63	*(100)	≤6
3.0–30	1842 / f	4.89 / f	*(900 / f^2)	<6
30–300	61.4	0.163	1.0	<6
300–1500			f / 300	<6
1500–100000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
0.3–1.34	614	1.63	*(100)	<30
1.34–30	824 / f	2.19 / f	*(180 / f^2)	<30
30–300	27.5	0.073	0.2	<30
300–1500			f / 1500	<30
1500–100000			1.0	<30

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

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

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

where: S = power density (mW/cm^2 or W/m^2)
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

Prediction frequency	28324.5 MHz
Antenna type	Low Profile WiBAS Antenna
Antenna gain	40.5 dBi
Number of antennas	1
Maximum transmitter conducted power	23.24 dBm (211 mW)
Prediction distance	440 cm

1.1.3 MPE calculation

Fundamental transmit (prediction) frequency:	28324.5	MHz
Maximum measured conducted peak output power:	23.24	dBm
Cable and/or jumper loss:	0	dB
Maximum peak power at antenna input terminal:	23.24	dBm
Tx On time:	1.000	ms
Tx period time:	1.000	ms
Average factor:	100	%
Maximum calculated average power at antenna input terminal:	210.862815	mW
Single Antenna gain (typical):	40.5	dBi
Number of antennae:	1	
Total system gain:	40.50	dBi
MPE limit for uncontrolled exposure at prediction frequency:	**1.000000**	**mW/cm^2**
	10.000000	W/m^2
Minimum calculated prediction distance for compliance:	434	cm
Typical (declared) distance:	440	cm
Average power density at prediction frequency:	**0.972489**	**mW/cm^2**
	9.724892	W/m^2
Margin of Compliance:	**0.12**	**dB**
Maximum allowable antenna gain:	40.62	dBi

1.1.4 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