

RADIO FREQUENCY EXPOSURE REPORT

FOR THE

Device: Camera Flash Trigger
Model: Nano Tx

Report No.: 94653-11

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PREPARED FOR:

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The test data contained in this report documents the observed testing parameters pertaining to and are relevant for only the sample equipment tested in the agreed upon operational mode(s) and configuration(s) as identified herein. Compliance assessment remains the client's responsibility. This report may not be used to claim product endorsement by A2LA or any government agencies. This test report has been authorized for release under quality control from CKC Laboratories, Inc.



Steve Behm
Director of Quality Assurance & Engineering Services
CKC Laboratories, Inc.

Purpose:

To demonstrate compliance with United States, Canada and/or European Union RF Exposure requirements for Portable equipment (devices used $\leq 20\text{cm}$ from the body) or Mobile equipment (devices used $> 20\text{cm}$ from the body) with power output below exemption levels and Mobile equipment, where exemption from RF Exposure requirements apply.

Device and Antenna Operating Configuration:

The device configuration includes one radio with integral antenna. All calculations are based on measured power and assume a firmware maximum duty cycle of no greater than 50%.

Test Procedure:

This equipment is evaluated in accordance with the guidelines set forth in KDB 447498, OET Guide 65 & ANSI C95.1 for the US and Health Canada Safety Code 6 & RSS 102 for Canada.

Other Considerations:

The US requirements are based on exemption by antenna conducted power, however the Canadian criteria are with respect to EIRP.

Canadian Compliance Requirements (RSS-102):**Exemption Level:**

Frequency Range (MHz)	Maximum Output Power (Conducted or EIRP)
0.003-1000	$\leq 200\text{ mW}$
1000-2200	$\leq 100\text{ mW}$
2200-3000	$\leq 20\text{ mW}$
3000-6000	$\leq 10\text{ mW}$

Exemption Calculations

Applicability:

<i>Limit Used</i>	X	General Population / Uncontrolled Exposure
		Occupational / Controlled Exposure
<i>RF Exposure Exemption</i>	Yes	United States
	Yes	Canada
	N/A	Europe

Equipment operational details:

<i>Config #</i>	<i>Operating Frequency (MHz)</i>	<i>Measured Output Power</i>	<i>Duty Cycle Correction</i>	<i>Antenna Type / Configuration</i>	<i>Power</i>
1	903.75 - 908	10.7 dBm (pk)	-3dB	At RF output	7.7 dBm (ave)
2	903.75 - 908	110.7 dBuV @3m (ave)	-3dB	Internal	12.5 dBm EIRP (ave)

* EIRP measured directly from field strength measurements and calculated into power using $P = \frac{(E \cdot d)^2}{30}$

Measurements based from EMC Test Report(s): 94653-5

Canada Standalone SAR Test Exclusion:

Output power is <20mW (13 dBm) EIRP and is therefore exempt from RF Exposure evaluation.

US Standalone SAR Test Exclusion:

For separation distances $\leq 50\text{mm}$; $\frac{\text{Max Power (mW)} \cdot \sqrt{\text{Frequency (GHz)}}}{\text{Min Separation Distance (mm)}}$

<i>Config #</i>	<i>Operating Frequency (MHz)</i>	<i>Measured Output Power - Rounded (mW EIRP)</i>	<i>Separation Distance (mm)</i>	<i>Calculated Value</i>	<i>1-g SAR test Exclusion Limit</i>
1	908	6	2	2.9	≤ 3.0

The above configurations meet standalone SAR test exclusion requirement in accordance with KDB 447498 §4.3.1.

Summary:*Exemptions:*

In the case the equipment meets compliance requirements by exemption the product is approved for use under mobile or portable conditions without further testing under the condition that any additional collocation or simultaneous transmission requirements (including necessary separation distances) have been met.

References

- Federal Communications Commission Knowledge Database (KDB) Publication 447498, "What are the RF exposure requirements and procedures for mobile and portable devices?" As in effect on the issue date of this report.
- Federal Communications Commission Bulletin OET 65 Supplement C, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields" June 2001
- Title 47 Code of Federal Regulations, Part 1.1310, "Radiofrequency radiation exposure limits." As in effect on the issue date of this report.
- Title 47 Code of Federal Regulations, Part 2.1091, "Radiofrequency radiation exposure evaluation: mobile devices." As in effect on the issue date of this report.
- Health Canada Safety Code 6 Limits of Human Exposure to Radiofrequency Electromagnetic Energy in the Frequency Range from 3 kHz to 300 GHz, 2009
- Health Canada Safety Code 6 Technical Guide, 2009
- Industry Canada RSS-102 Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands) Issue 4, March 2010 (including update December, 2010)
- International Commission on Non-Ionizing Radiation Protection. Guidelines for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300 GHz). Health Physics 74 (4): 494-522; 1998.
- International Commission on Non-Ionizing Radiation Protection Statement on the "Guidelines for limiting exposure to time-varying electric, magnetic and electromagnetic fields (up to 300 GHz). Health Physics 97(3):257-259; 2009.
- European Committee for Electrotechnical Standardization. European Normative, EN 50371 Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz) 2002.