BEC INCORPORATED

SAR REPORT

TEST STANDARDS:
FCC Part 15 Subpart C Intentional Radiator

Woodstream Corporation Model V430 Lora Radio
Rat Snap Trap (DSS and DTS)

FCC ID: SNA-V430

REPORT BEC-2127-14 REV1

CUSTOMER:
Woodstream Corporation
69 North Locust Street
Lititz, PA 17543

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ACCREDITED
Testing Cert #2557.01

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Revision History

Revision #	Description of Changes	Date of Changes	Date Released
0	Test Report Initial Release	N/A	07/01/2021
1	Correction of MPE Limit	07/06/2021	07/06/2021

1.0 Administrative Information

1.1 General Information Table

Project Number	BEC-2127	
Manufacturer	Woodstream Corporation	
Model Number	V430	
EUT Description	VLINK Rat Snap Trap with LoRa Radio Communication	
Serial Number	None	
Sample Type	Modified with SMA connector on transmitter output port (Antenna Conducted Sample)	
Sample Number	2127-02	
FCC ID	SNA-V430	
Radio Chip Manufacturer	Semtech Corporation	
Radio Chip Model Number	SX1272	
Frequency of Operation	902 – 915 MHz	
Frequencies Tested	Low (902.3 MHz) Middle (908.7 MHz) High (914.9 MHz)	Low (903 MHz) Middle (909.4 MHz) High (914.2 MHz)
Antenna Gain	-0.04 dBi	
FCC Classification	Digital Spread Spectrum (DSS)	Digital Transmission System (DTS)
Date Sample Received	03/08/2021	
Condition Sample Received	Suitable for test	
Sample Type	Production unit	
Applicable FCC Rules	47 CFR Part 2.1093	

1.2 Maximum Permissible Exposure Calculation

§15.247 Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz.

(i) Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. *See* §1.1307(b)(1) of this chapter.

§1.1307 Actions that may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.

(b)(1) The appropriate exposure limits in §§1.1310 and 2.1093 of this chapter are generally applicable to all facilities, operations and transmitters regulated by the Commission.

§1.1310 Radiofrequency radiation exposure limits.

(2) At operating frequencies less than or equal to 6 GHz, the limits for maximum permissible exposure (MPE), derived from whole-body Specific Absorption Rate (SAR) limits and listed in Table 1 of paragraph (e) of this section, may be used instead of whole-body SAR limits as set forth in paragraph (a) through (c) of this section to evaluate the environmental impact of human exposure to RF radiation as specified in §1.1307(b), except for portable devices as defined in §2.1093 as these evaluations shall be performed according to the SAR provisions in §2.1093 of this chapter.

(4) Both the MPE limits listed in Table 1 of paragraph (e) of this section and the SAR limits as set forth in paragraph (a) through (c) of this section and in §2.1093 of this chapter are for continuous exposure, that is, for indefinite time periods. Exposure levels higher than the limits are permitted for shorter exposure times, as long as the average exposure over the specified averaging time in Table 1 is less than the limits. Detailed information on our policies regarding procedures for evaluating compliance with all of these exposure limits can be found in the FCC's *OET Bulletin 65,* "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields," and in supplements to *Bulletin 65,* all available at the FCC's Internet Web site: *http://www.fcc.gov/oet/rfsafety*

§2.1093 Radiofrequency radiation exposure evaluation: portable devices.

(b) For purposes of this section, a portable device is defined as a transmitting device designed to be used so that the radiating structure(s) of the device is/are within 20 centimeters of the body of the user.

From: OET Bulletin 65 Edition 97-02, page 19.

$$S = \frac{PG}{4\pi R^2} \quad (3)$$

where: S = Power Density (in appropriate units, e.g., mW/cm^2)
P = Power input to the antenna (in appropriate units, e.g., mW)
G = Power Gain of the antenna in the direction of interest to an isotropic radiator
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

or:
$$S = \frac{EIRP}{4\pi R^2} \quad (4)$$

where: EIRP = equivalent (or effective) isotropically radiated power

1.3 Maximum Permissible Exposure Calculation Results

Calculation

Effective Isotropic Radiated Power (EIRP) =

Antenna Power Output (dBW) + antenna gain (dBi)

V430	Antenna Power	Antenna Gain	EIRP	Power Density @ 20 cm	1.1310 Limit	Margin
	dBW	dBi	dBw	mW/cm^2	mW/cm^2	
DSS	-13.03	-0.04	-13.07	0.0098	0.60	-0.5902
DTS	-12.85	-0.04	-13.07	0.0102	0.60	-0.5898

Antenna power is the highest measured level among the low, middle and high frequencies of the DSS and DTS transmitters.

Results: The calculated Power Density of the measurements for the DSS and DTS LoRa radios contained in the Woodstream V430 is 0.01 mW/cm^2. This complies with the limit of 0.6 mW/cm^2 from Table 1(B) of 47 CFR Part 1.1310. Therefore, exposure evaluation is not required.