

RF Exposure Evaluation Report

Product : Nano G5
Trade mark : W-DMX
Model/Type reference : A40890G5-SPI
Serial Number : N/A
Report Number : EED32J00133502
FCC ID : 2APCT-DMXG5SB
Date of Issue : Mar. 15, 2018
47 CFR Part 1.1307
Test Standards : 47 CFR Part 1.1310
KDB 447498 D01v06
Test result : PASS

Prepared for:

Wireless Solution Sweden Sales AB
Stureparksvagen 7, 451 55 Uddevalla, Sweden

Prepared by:

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Date:

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2 Version

Version No.	Date	Description
00	Mar. 15, 2018	Original

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4 General Information

4.1 Client Information

Applicant:	Wireless Solution Sweden Sales AB
Address of Applicant:	Stureparksvagen 7, 451 55 Uddevalla, Sweden
Manufacturer:	Wireless Solution Sweden Sales AB
Address of Manufacturer:	Stureparksvagen 7, 451 55 Uddevalla, Sweden
Factory:	Orbit One
Address of Factory:	Fridhemsvagen 15, Box 73, 372 38 Ronneby

4.2 General Description of EUT

Product Name:	Nano G5
Model No.:	A40890G5-SPI
Trade Mark:	W-DMX
EUT Supports Radios application:	2403MHz~2478MHz
Power Supply:	DC 5V

4.3 Product Specification subjective to this standard

Modulation Type:	GFSK
Antenna Type:	Dipole Antenna
Antenna Gain:	3dBi
Test Voltage:	DC 5V
Sample Received Date:	Dec 4, 2017
Sample tested Date:	Dec 4, 2017 to Mar. 12, 2018
The tested sample and the sample information are provided by the client.	

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd.

Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China 518101

Telephone: +86 (0) 755 3368 3668 Fax: +86 (0) 755 3368 3385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 RF Exposure Evaluation

5.1 RF Exposure Compliance Requirement

5.1.1 Limits

According to FCC Part1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in part1.1307(b)

TABLE 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)
(A) Limits for Occupational/Controlled Exposures				
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
1500–100,000			5	6
(B) 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
1500–100,000			1.0	30

A rough estimation of the expected exposure in power flux density on a given point can be made with the following equation:

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Where:

S = power density

P = power input to the antenna

G = numeric gain of the antenna in the direction of interest relative to an isotropic radiator

R= distance to the centre of radiation of the antenna

EIRP = P*G

The antenna of the product, under normal use condition is at least 20 cm away from the body of the user.

Warning statement to the user for keeping at least 20cm separation distance and the prohibition of operating to a person has been printed on the user's manual. Therefore, the S of the device is calculated with R=20cm, and if it is below the limits, then we can conclude the device complies with the rules.

5.1.2 Test Procedure

EUT provided by client enabled to transmit data at lowest, middle and highest channel individually.

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5.1.3 EUT RF Exposure Evaluation

Antenna Gain: 3dBi

Output Power Into Antenna & RF Exposure Evaluation Distance:

Channel	Frequency (MHz)	Max Conducted Peak Output Power(dBm)	Gain (dBi)	EIRP (dBm)	EIRP (mW)	R (cm)	S (mW/cm ²)	Limit (mW/cm ²)	Result
Low	2403	20.332	3	23.332	215.377	20	0.043	1.0	Pass

Note: Refer to report No. EED32J00133501 for EUT test Max Conducted Peak Output Power value.

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32J00133501 for EUT external and internal photos.

*** End of Report ***

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