

RF Exposure Evaluation Declaration

FCC ID: BRWSR6100AT

APPLICANT: Horizon Hobby, LLC

Application Type: Certification

Product: Receiver

Model No.: SR6100AT

Brand Name: Spektrum

FCC Classification: Digital Transmission System (DTS)

Test Procedure(s): KDB 447498 D01v06

Test Date: April 11 ~ April 26, 2019

Reviewed By:

Sunny Sun

(Sunny Sun)

Approved By:

Robin Wu

(Robin Wu)



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
1904RSU005-U3	Rev. 01	Initial Report	05-10-2019	Valid

§2.1033 General Information

Applicant:	Horizon Hobby, LLC
Address:	2904 Research Rd. Champaign, IL 61822
Manufacturer:	Horizon Hobby, LLC
Address:	2904 Research Rd. Champaign, IL 61822
Test Site:	MRT Technology (Suzhou) Co., Ltd
Test Site Address:	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China
Test Device Serial No.:	N/A <input type="checkbox"/> Production <input checked="" type="checkbox"/> Pre-Production <input type="checkbox"/> Engineering

Test Facility / Accreditations

Measurements were performed at MRT Laboratory located in Tian'edang Rd., Suzhou, China.

- MRT facility is a FCC registered (MRT Reg. No. 893164) test facility with the site description report on file and has met all the requirements specified in ANSI C63.4-2014.
- MRT facility is an IC registered (MRT Reg. No. 11384A-1) test laboratory with the site description on file at Industry Canada.
- MRT facility is a VCCI registered (R-20025, G-20034, C-20020, T-20020) test laboratory with the site description on file at VCCI Council.
- MRT Lab is accredited to ISO 17025 by the American Association for Laboratory Accreditation (A2LA) under the American Association for Laboratory Accreditation Program (A2LA Cert. No. 3628.01) in EMC, Telecommunications, Radio and SAR testing.



1. PRODUCT INFORMATION

1.1. Feature of Equipment under Test

Product Name:	Receiver
Model No.:	SR6100AT
Brand Name:	Spektrum
Frequency Range:	2405 ~ 2478 MHz
Type of Modulation:	GFSK
Channel Number:	23
Antenna Information:	monopole Antenna, 2dBi

1.2. Working Frequencies

Channel	Frequency	Channel	Frequency
01	2405 MHz	02	2408 MHz
03	2412 MHz	04	2415 MHz
05	2418 MHz	06	2421 MHz
07	2425 MHz	08	2428 MHz
09	2431 MHz	10	2434 MHz
11	2438 MHz	12	2440 MHz
13	2444 MHz	14	2447 MHz
15	2451 MHz	16	2454 MHz
17	2457 MHz	18	2460 MHz
19	2464 MHz	20	2467 MHz
21	2470 MHz	22	2474 MHz
23	2478 MHz	---	---

Note: The engineer test sample was provided by the manufacturer, it was configured into fixed frequency T_x status after power on.

2. RF Exposure Evaluation

2.1. Limits

According to FCC 1.1310: 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 1.1307(b)

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	f/1500	6
1500-100,000	--	--	1	30

f= Frequency in MHz

Calculation Formula: $Pd = (Pout * G) / (4 * \pi * r^2)$

Where

Pd = power density in mW/cm²

Pout = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

r = distance between observation point and center of the radiator in cm

Pd is the limit of MPE, 1mW/cm². If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

2.2. Test Result of RF Exposure Evaluation

Product	Receiver
Test Item	RF Exposure Evaluation

Test Mode	Frequency Band (MHz)	Maximum EIRP (dBm)	Power Density at R = 20 cm (mW/cm ²)	Limit (mW/cm ²)
GFSK	2405 ~ 2478	27.76	0.1188	1

Note: EIRP (dBm) = Conducted Power (dBm) + Peak Gain (dBi)

CONCLUSION:

The max Power Density at R (20 cm) = 0.1188mW/cm² < 1 mW/cm² for 2.4G Radio Frequency..

The End

Appendix A - EUT Photograph

Refer to "1904RSU005-UE" file.