RADIO TEST REPORT

Report No: STS2109222H02

Issued for

SNEGRID Power Technology Co., Ltd.

Intersection of Xinfa North Road and Yihu Avenue, Yangcun Industrial Park, Tianchang City, Anhui Province, China

Product Name:	Protocol converter
Brand Name:	SNEGRID
Model Name:	SNE9610-PLUS
Series Model:	N/A
FCC ID:	2A3R3SNE9610-PLUS
Test Standard:	FCC 47CFR §2.1091

Shenzhen STS Test Services Co., Ltd.
A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China
TEL: +86-755 3688 6288 FAX: +86-755 3688 6277 E-mail:sts@stsapp.com

Test Report Certification

Applicant's Name..... :	SNEGRID Power Technology Co., Ltd.
Address ..... :	Intersection of Xinfa North Road and Yihu Avenue, Yangcun Industrial Park, Tianchang City, Anhui Province, China
Manufacturer's Name ..... :	SNEGRID Power Technology Co., Ltd.
Address ..... :	Intersection of Xinfa North Road and Yihu Avenue, Yangcun Industrial Park, Tianchang City, Anhui Province, China

Product Description

Product Name..... :	Protocol converter
Brand Name ..... :	SNEGRID
Model Name ..... :	SNE9610-PLUS
Series Model..... :	N/A
Standards..... :	FCC 47CFR §2.1091

Date of Test..... :	
Date of receipt of test item ..... :	28 Oct. 2021
Date (s) of performance of tests..... :	28 Oct. 2021 ~ 31 Dec. 2021
Date of Issue..... :	31 Dec. 2021
Test Result..... :	**Pass**

Testing Engineer : 

(Chris Chen)

Technical Manager : 

(Sean she)

Authorized Signatory : 

(Vita Li)

TABLE OF CONTENTS

Revision History

Rev.	Issue Date	Report No.	Effect Page	Contents
00	31 Dec. 2021	STS2109222H02	ALL	Initial Issue

1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

<table>
<tr><td>Product Name</td><td>Protocol converter</td></tr>
<tr><td>Brand Name</td><td>SNEGRID</td></tr>
<tr><td>Model Name</td><td>SNE9610-PLUS</td></tr>
<tr><td>Series Model</td><td>N/A</td></tr>
<tr><td>Product Description</td><td>The EUT is Protocol converter
<table>
<tr><td>Operation Frequency:</td><td>802.11b/g/n 20: 2412~2462 MHz</td></tr>
<tr><td>Modulation Type:</td><td>802.11b(DSSS):CCK,DQPSK,DBPSK
802.11g(OFDM):BPSK,QPSK,16-QAM,64-QAM
802.11n(OFDM):BPSK,QPSK,16-QAM,64-QAM</td></tr>
<tr><td>Antenna gain:</td><td>5dBi</td></tr>
<tr><td>Antenna Designation:</td><td>Bendable antenna</td></tr>
</table></td></tr>
<tr><td>Adapter</td><td>Input: AC 100-240V 50/60Hz 0.55A
Output: DC 12V 1.67A</td></tr>
<tr><td>Hardware Version</td><td>V2.0</td></tr>
<tr><td>Software Version</td><td>V1.0</td></tr>
</table>

1.2 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD
Add. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration Number: 625569

IC test Firm Registration Number: 12108A

A2LA Certificate No.: 4338.01

2. FCC 47CFR §2.1091 REQUIREMENT

2.1 TEST STANDARDS

The limit for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 is followed. The gain of the antennas used in the product is extracted from the Antenna data sheets provided and also the maximum total power input to the antenna is measured. Through the Friis transmission formula and the maximum gain of the antenna, we can calculate the distance, away from the product, where the limit of MPE is reached.
Although the Friis Transmission formula is far field assumption, the calculated result of that is an over-prediction for near field power density. It is taken as worst case to specify the safety range.

2.2 LIMIT

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environmental impact of the 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)
Limits for Occupational / controlled Exposures			
300 - 1500	--	--	F/300
1500 – 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
300 - 1500	--	--	F/1500
1500 – 100000	--	--	1.0

F= Frequency in MHz

Friss Formula

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

Where

Pd = power density in mW/cm^2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = Distance between observation point and the center of radiator in cm

If we know the maximum gain of the antenna and the total output power to the antenna, through calculation, we will know MPE value at distance 20cm.

2.3 EUT OPERATION CONDITION

EUT was enabled to transmit and receive at lowest, middle and highest channels.

2.4 CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. Warning statement to the user for keeping at least 20cm or more separation distance from the antenna should be included in the User manual. So, this device is classified as Mobile device.

2.5 TEST RESULT

Turn up

Mode	Detector	Turn up Power
802.11b	AV	2±1dBm

ANT Gain (G)

2412~2462 MHz: 5dBi (gain of antenna in linear scale=3.1623)

Protocol	Max Turn up Power (dBm)	Max Turn up Power (mW)	ANT Gain(gain of antenna in linear scale)	Power Density (mW/cm²)	Limit (mW/cm²)	Ratio	Result
802.11b	3	1.9953	3.1623	0.0013	1	0.0013	Pass

※※※※※END OF THE REPORT※※※※※