

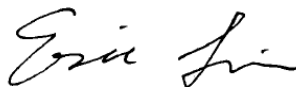
1 Cover Page

RF Exposure Evaluation Report

Application No.: KSCR2208001371AT
FCC ID: 2A8CZ000077GB000002
Applicant: Nova Electronics (Shanghai) Co., LTD
Address of Applicant: Zone A, 6th Floor, 1st Building, No. 601, Jinyuan fifth road, Jiading District, Shanghai, P.R.China
Manufacturer: Nova Electronics (Shanghai) Co., LTD
Address of Manufacturer: Zone A, 6th Floor, 1st Building, No. 601, Jinyuan fifth road, Jiading District, Shanghai, P.R.China
Factory: Nova Electronics (Shanghai) Co., LTD
Address of Factory: Zone A, 6th Floor, 1st Building, No. 601, Jinyuan fifth road, Jiading District, Shanghai, P.R.China
Equipment Under Test (EUT):
EUT Name: 77GHz millimeter-wave radar
Model No.: NOVA77GB-C Pro-H; NOVA77GB-C Pro-V
Standard(s) : FCC Rules 47 CFR §2.1091
KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt: 2022-08-05
Date of Test: 2022-09-02 to 2022-09-20
Date of Issue: 2022-09-23

Test Result:	Pass*
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* In the configuration tested, the EUT complied with the standards specified above.



Eric Lin
Laboratory Manager



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Compliance Certification Services (Kunshan) Inc.

Report No.: KSCR220800137102

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Revision Record			
Version	Description	Date	Remark
00	Original	2022-09-23	/

Authorized for issue by:			
		<i>Pawn Liu</i>	

		Pawn Liu / Project Engineer	
		<i>Eric Lin</i>	

		Eric Lin / Reviewer	



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3 General Information

3.1 General Description of E.U.T.

Power supply:	DC 12-24V
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3.2 Technical Specifications

Frequency band:	76.0 GHz – 77.0 GHz
Type of modulation:	FMCW
Center Frequency:	76.66GHz
Channel Number:	1
Antenna Type:	PCB antenna
Antenna Gain:	15dBi (Provided by the manufacturer)
Serial Number:	090622A005
Firmware Version:	V0.83



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3.3 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

Note:

1.SGS is not responsible for wrong test results due to incorrect information (e.g. max. clock frequency, highest internal frequency, antenna gain, cable loss, etc) is provided by the applicant. (if applicable).

2.SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (if applicable).

3.4 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• CNAS

Compliance Certification Services (Kunshan) Inc. is accredited by the China National Accreditation Service for Conformity Assessment (CNAS). Registration No. CNAS L4354

• A2LA

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

• FCC

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

• ISED

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. Company Number: 2324E

• VCCI

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.



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4 Test Standards and Limits

4.1 FCC Radiofrequency radiation exposure limits:

According to §1.1310, the limit for general population/uncontrolled exposures

Frequency	Power density(mW/cm ²)	Averaging time(minutes)
300MHz~1.5GHz	f/1500	30
1.5GHz~100GHz	1.0	30



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5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report KSCR220800137101

Frequency (GHz)	dBuV/m @ 0.15m	E.I.R.P. Power (dBm)	E.I.R.P. Power (mW)
76.66	140.32	19.07	80.72
	129.03	7.78	6.00
	118.48	-2.77	0.53
	116.37	-4.88	0.33
76.66	Max tune up power	19.50	89.13

Remark:

$E[\text{dB}\mu\text{V}/\text{m}] = \text{EIRP}[\text{dBm}] - 20 \log(d[\text{meters}]) + 104.77$, where E = field strength and d = distance at which field strength limit is specified in the rules

$\text{EIRP}[\text{dBm}] = E[\text{dB}\mu\text{V}/\text{m}] + 20 \log(d[\text{meters}]) - 104.77$

5.2 MPE Calculation

According to the formula $S = PG/4\pi R^2$, we can calculate S which is MPE.

Note:

- 1) P (mW)
- 2) G (Antenna gain in numeric)
- 3) R = distance to the center of radiation of antenna (in meter) = 20cm
- 4) MPE limit = 1mW/cm²

$$S = \frac{PG}{4R^2\pi} = \frac{89.13}{4 \times 400 \times 3.14} = 0.018 \text{ mW/cm}^2 < 1 \text{ mW/cm}^2$$

So the device is exclusion from SAR test.

--End of the Report--



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