RF TEST REPORT

Product Name: 4G module

Model Name: BC78-NA

FCC ID: 2AQSK-BC78-NA

Issued For : HuiZhou BoShiJie Technology CO.,Ltd

No. 1,Huifeng West three road, Zhongkai Hi-tech Zone,Huizhou, 518110 China

Issued By : Shenzhen LGT Test Service Co., Ltd.

Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China

Report Number:	LGT25E052HA01
Sample Received Date:	May 14, 2025
Date of Test:	May 14, 2025 ~ May 28, 2025
Date of Issue:	May 28, 2025

TEST REPORT CERTIFICATION

Applicant:	HuiZhou BoShiJie Technology CO.,Ltd
Address:	No. 1,Huifeng West three road, Zhongkai Hi-tech Zone,Huizhou, 518110 China
Manufacturer:	COOSEA GROUP (HK) COMPANY LIMITED
Address:	No. 1,Huifeng West three road, Zhongkai Hi-tech Zone,Huizhou, 518110 China
Product Name:	4G module
Trademark:	N/A
Model Name:	BC78-NA
Sample Status:	Normal

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47 CFR §2.1091 KDB 447498 D01 General RF Exposure Guidance v06	PASS

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Revision History

Rev.	Issue Date	Revisions
00	May 28, 2025	Initial Issue

1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name:	4G module	
Trademark:	N/A	
Model Name:	BC78-NA	
Series Model:	N/A	
Model Difference:	N/A	
Frequency Bands:	LTE	LTE Band 2:1850~1910MHz LTE Band 5: 824~849MHz LTE Band 12: 699-716MHz LTE Band 13: 777-787MHz LTE Band 17:704~716MHz LTE Band 66: 1710-1780MHz
Rating:	Input: DC 3.8-4.2V	
Hardware Version:	N/A	
Software Version:	BC78-NA V2.0	

1.2 TEST LABORATORY

Company Name:	Shenzhen LGT Test Service Co., Ltd.
Address:	Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China
Accreditation Certificate:	A2LA Certificate No.: 6727.01
	FCC Registration No.: 746540
	CAB ID: CN0136

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			
0.3-3.0	614	1.63	*(100)
3.0-30	1842/f	4.89/f	*($900/f^2$)
30-300	61.4	0.163	1.0
300 - 1500	--	--	F/300
1500 – 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
0.3-1.34	614	1.63	*(100)
1.34-30	824/f	2.19/f	*($180/f^2$)
30-300	27.5	0.073	0.2
300 - 1500	--	--	F/1500
1500 – 100000	--	--	1.0

F= Frequency in MHz

* = Plane-wave equivalent power density.

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 Result

Mode	Turn up Power
LTE B2	24±1dBm
LTE B5	24.5±1dBm
LTE B12	24±1dBm
LTE B13	24.5±1dBm
LTE B17	24±1dBm
LTE B66	24.5±1dBm

The MPE result of worst mode:

RF Function	Frequency (MHz)	Max Turn up Power (dBm)	Duty cycle factor	Max Power (dBm)	Max Power (mW)	ANT Gain (dBi)	ANT Gain (gain of antenna in linear scale)	Power Density (mW/cm²)	Limit (mW/cm²)	Ratio	Result
LTE B2	1880	25	0	24.82	303.39	12	15.85	0.957	1	0.957	Pass
LTE B5	826.5	25.5	0	25.07	321.37	9	7.94	0.508	0.55	0.922	Pass
LTE B12	707.5	25	0	24.56	285.76	9	7.94	0.452	0.47	0.957	Pass
LTE B13	782	25.5	0	25.05	319.89	9	7.94	0.506	0.52	0.970	Pass
LTE B17	710	25	0	24.8	302.00	9	7.94	0.477	0.47	1.008	Pass
LTE B66	1775	25.5	0	25.11	324.34	11.5	14.13	0.911	1	0.911	Pass

Note:

1. The Maximum Power Density is less than the limit, complies with the exemption requirements.

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