RF Test Report

Applicant:	Quectel Wireless Solutions Company Limited
Address:	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, 200233 China
Product:	Wi-Fi & Bluetooth Module
Model No.:	FCS962N-LP
Brand Name:	QUECTEL
FCC ID:	XMR25FCS962NLP
Standards:	FCC CFR47 Part 2.1091 FCC KDB 447498 D01 v06
Report No.:	PD20240166-R3F
Issue Date:	2025/03/04
Test Result:	PASS *

* **Testing performed at Hefei Panwin Technology Co., Ltd. on the above equipment indicates the product meets the requirements of the relevant standards.**

Reviewed By: Jerry Zhang **Approved By:** Alec Yang

Hefei Panwin Technology Co., Ltd.

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Revision History

Report No.	Version	Description	Issue Date	Note
PD20240166-R3F	01	Initial Report	2025/03/04	Valid

Remark:

• The samples tested have been evaluated in accordance with 47 CFR Part 2.1091 and FCC KDB 447498 D01 v06, and have been proven to meet the applicable limit requirements.

CONTENTS

1 Test Laboratory 4
1.1 Notes of the Test Report 4
1.2 Testing Laboratory 4
2 General Description of Equipment under Test 4
2.1 Details of Application 4
2.2 Details of EUT 5
3 Test Condition 6
3.1 Laboratory Environment 6
4 Maximum Permissible Exposure (EMF) 7
ANNEX A – Test Results 8
ANNEX B – The EUT Appearance 9

1 Test Laboratory

1.1 Notes of the Test Report

This report is invalid without signature of auditor and approver or with any alterations. The report shall not be partially reproduced without written approval of the testing company. Entrusted test results are only responsible for incoming samples. If there is any objection to the testing report, it shall be raised to the testing company within 15 days from the date of receiving the report. In the test results, "NA" means "not applicable", and the test items marked with "Δ" are subcontracted projects.

1.2 Testing Laboratory

Company Name	Hefei Panwin Technology Co., Ltd.
Address	Floor 1, Zone E, Plant 2#, Mingzhu Industrial Park, No.106 Chuangxin Avenue, High-tech Zone, Hefei City, Anhui Province,China
Telephone	+86-0551-63811775
Post Code	230031

2 General Description of Equipment under Test

2.1 Details of Application

Applicant	Quectel Wireless Solutions Company Limited
Applicant Address	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, 200233 China
Manufacturer	Quectel Wireless Solutions Company Limited
Manufacturer Address	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, 200233 China

2.2 Details of EUT

Product	Wi-Fi & Bluetooth Module
Model	FCS962N-LP
HW Version	R1.0
SW Version	/
Antenna Type	☑ External ☐ Integrated
Note : The declared of product specification for EUT and/or Antenna presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.	

3 Test Condition

3.1 Laboratory Environment

Temperature	Min.= 20℃, Max.=30℃
Relative Humidity	Min.= 25%, Max.=75%
Ground System Resistance	< 1 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

4 Maximum Permissible Exposure (EMF)

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310.

Table 1 to § 1.1310(e)(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)**
(i) Limits for Occupational/Controlled Exposure				
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
300–1,500	--	--	f/300	<6
1,500–100,000	--	--	5	<6
(ii) 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
300–1,500	--	--	f/1500	<30
1,500–100,000	--	--	1.0	<30
f = frequency in MHz. * = Plane-wave equivalent power density.				

The transmitter is using external antennas that operate at 20 cm or more from nearby persons.The maximum permitted level is calculated using the general equation:

$$S = PG/ 4\pi R^2$$

Where:

S = power density (in appropriate units, e.g. Wm^2)

P = power input to the antenna (in appropriate units, e.g., W)

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

R = distance to the center of radiation of the antenna (appropriate units, e.g., m)

Solve S, the power density at 20 cm is shown in Appendix A, so the limit is kept.

-------- THE END --------

ANNEX A: Test Results

A.1 Maximum Measured Conducted Output Power and Antenna Gain

Band	TX Freq. (MHz)	Maximum Tune up power (dBm)	Maximum Antenna Gain (dBi)
Bluetooth	2402 to 2480	13.00	0.20
Wi-Fi 2.4G	2412 to 2462	21.00	0.20
Wi-Fi 5G	5150 to 5850	19.50	-0.70

A.2 Test Results of Maximum Permissible Exposure

Band	Maximum Power (dBm)	Antenna Gain(dBi)	Maximum EIRP(dBm)	PG (mW)	Test Result (mW/cm^2)	Limit Value (mW/cm^2)
Bluetooth LE	13.00	0.20	13.20	20.893	0.004	1.000
Wi-Fi 2.4G	21.00	0.20	21.20	131.826	0.026	1.000
Wi-Fi 5G	19.50	-0.70	18.80	75.858	0.015	1.000

Note 1: According to the EUT characteristic, Bluetooth,Wi-Fi 2.4G and Wi-Fi 5G can't transmit simultaneously.
Note 2: For mobile or fixed location transmitters, minimum separation distance is 20cm, even if calculations indicate EMF distance is less.

Conclusion:
According to 47 CFR §2.1091, the RF exposure analysis concludes that the RF Exposure is FCC compliant.

ANNEX B:The EUT Appearance

The EUT Appearance (internal and external photographs) are submitted separately.