

MPE Evaluation Report

Applicant Quectel Wireless Solutions Company
Limited

FCC ID XMR2024FGS060N

Product Wi-Fi, Bluetooth with Thread Module

Brand QUECTEL

Model FGS060N

Report No. EFTA26070315-IE-08-M1

Issue Date October 9, 2026

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC 47 CFR Part 1 §1.1310, §2.1091**. The test results show that the equipment tested can demonstrate compliance with the requirements as documented in this report.



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1 Test Laboratory

1.1 Notes of the Test Report

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1.2 Test Facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

Eurofins TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

1.3 Testing Location

Company: Eurofins TA Technology (Shanghai) Co., Ltd.
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2 Description of Equipment Under Test

Client Information

Applicant	Quectel Wireless Solutions Company Limited
Applicant address	No. 8 Waipojing Road, Sijing Town, Songjiang District, Shanghai 201601, China
Manufacturer	Quectel Wireless Solutions Company Limited
Manufacturer address	No. 8 Waipojing Road, Sijing Town, Songjiang District, Shanghai 201601, China

General Technologies

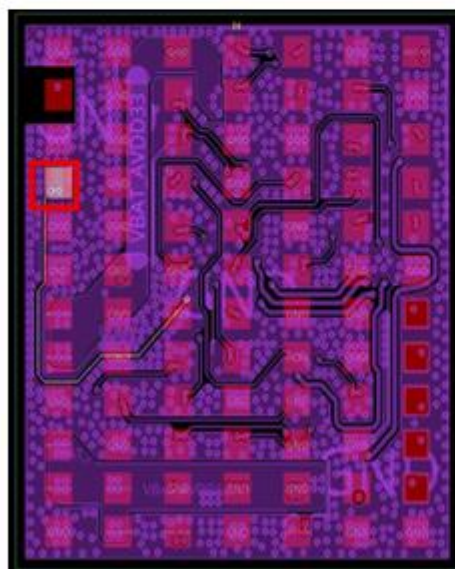
EUT Description			
Model	FGS060N		
SN	1Y26F21R000115		
Hardware Version	R1.0		
Software Version	NA		
Frequency	Band	TX (MHz)	RX (MHz)
	Wi-Fi 2.4G	2412 ~ 2462	2412 ~ 2462
	Wi-Fi 5GHz (U-NII-1)	5150 ~ 5250	5150 ~ 5250
	Wi-Fi 5GHz (U-NII-2A)	5250 ~ 5350	5250 ~ 5350
	Wi-Fi 5GHz (U-NII-2C)	5470 ~ 5600 5650 ~ 5725	5470 ~ 5600 5650 ~ 5725
	Wi-Fi 5GHz (U-NII-3)	5725 ~ 5850	5725 ~ 5850
	Thread	2405 ~ 2480	2405 ~ 2480
	Bluetooth	2402 ~ 2480	2402 ~ 2480
Date of Testing	August 19, 2026 ~ September 1, 2026		
Date of Sample Received	August 7, 2026		
Note: 1. The EUT is sent from the applicant to Eurofins TA and the information of the EUT is declared by the applicant. 2. All indications of Pass/Fail in this report are opinions expressed by Eurofins TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.			

FGS060N (Report No.: EFTA26070315-IE-08-M1) is a variant model of FGS060N (Report No.: R2408A1041-M1V1).

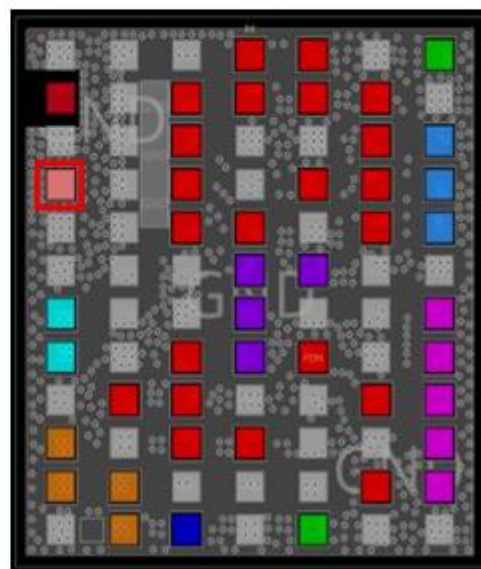
This report changes the antenna, applicant address, Manufacturer address and Brand name.FGS060N(R1.1) and FGS060N(R1.0) both use NXP IW612UK/A1IZ chipset, share the same chipset baseline, but in the software and hardware fields, there is only one difference in the usage of GPIO. the difference is FGS060N(R1.1) LGA Module D1 PIN is LE_AUDIO, but the PIND1 ON FGS060NABMD LGA MODULE is Reversed.

Module	Chipset	Frequency
FGS060N(R1.1)	IW612UK/A1IZ	2.4 GHz: 2400 MHZ ~2483.5MHZ 5GHz: 4900MHZ~5895MHZ
FGS060N(R1.0)	IW612UK/A1IZ	2.4 GHz: 2400 MHZ ~2483.5MHZ 5GHz: 4900MHZ~5895MHZ

PCB Layout changes



FGS060N(R1.1)



FGS060N(R1.0)

HW Difference Table

Designator	FGS060N(R1.1)	FGS060N(R1.0)
PCB	LGA PIN D1 PIN is net LE_AUDIO connect to IW612 chip	LGA PIN D1 PIN is no net connect to IW612 chip

The detailed product change description please refers to the Difference Declaration Letter.

3 Maximum Tune up and Antenna Gain

Band	Maximum Tune up Tolerance		Antenna Gain (dBi)	Numeric Gain
	(dBm)	(mW)		
Wi-Fi 2.4G	18.00	63.10	0.2	1.05
Wi-Fi 5GHz (U-NII-1)	17.00	50.12	-0.7	0.85
Wi-Fi 5GHz (U-NII-2A)	17.00	50.12	-0.8	0.83
Wi-Fi 5GHz (U-NII-2C)	17.00	50.12	-1.2	0.76
Wi-Fi 5GHz (U-NII-3)	17.00	50.12	-1.0	0.79
Thread	20.00	100.00	0.2	1.05
Bluetooth	18.00	63.10	0.2	1.05

4 MPE Limit

According to section 1.1310 of FCC 47 CFR Part 1, limits for maximum permissible exposure (MPE) are as following.

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.*

Note1. Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational / controlled limits apply provided he or she is made aware of the potential for exposure.

Note2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

The maximum permissible exposure for 1500~100,000MHz is 1.0. So

Band	The Maximum Permissible Exposure (mW/cm ²)
Wi-Fi 2.4GHz	1.000
Wi-Fi 5GHz	1.000
Thread	1.000
Bluetooth	1.000

5 RF Exposure Evaluation Result

RF exposure evaluation method is based on KDB 447498 D01, this calculation is based on the conducted power, maximum power and antenna gain with provides the minimum separation distance. The formula shown below is from OET Bulletin 65 Edition 97-01 Per KDB 447498 D01:

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

Where: S = power density (in appropriate units, e.g. mW/cm²)

P = Time-average maximum tune up procedure (in appropriate units, e.g., mW)

G = the numeric gain of the antenna

R = distance to the center of radiation of the antenna (20 cm = limit for MPE)

Band	Maximum Tune up (dBm)	Antenna Gain (dBi)	Maximum EIRP (dBm)	PG (mW)	Result (mW/cm ²)	Limit Value (mW/cm ²)	The MPE Ratio
Wi-Fi 2.4G	18.00	0.2	18.200	66.069	0.013	1.000	0.013
Wi-Fi 5GHz (U-NII-1)	17.00	-0.7	16.300	42.658	0.008	1.000	0.008
Wi-Fi 5GHz (U-NII-2A)	17.00	-0.8	16.200	41.687	0.008	1.000	0.008
Wi-Fi 5GHz (U-NII-2C)	17.00	-1.2	15.800	38.019	0.008	1.000	0.008
Wi-Fi 5GHz (U-NII-3)	17.00	-1.0	16.000	39.811	0.008	1.000	0.008
Thread	20.00	0.2	20.200	104.713	0.021	1.000	0.021
Bluetooth	18.00	0.2	18.200	66.069	0.013	1.000	0.013
Note: R = 20cm $\pi = 3.1416$ The MPE Ratio = Mac Result ÷ Limit Value							

This device supports simultaneous transmission via Wi-Fi 2.4GHz , Wi-Fi 5G , Thread and Bluetooth.

So, the simultaneous transmitting antenna max pairs as below:

TER = Wi-Fi 2.4GHz Antenna MPE Ratio + Wi-Fi 5GHz Antenna MPE Ratio + Thread Antenna MPE Ratio + Bluetooth Antenna MPE Ratio = 0.013 + 0.008 + 0.021 + 0.013 = 0.055<1.

So, the limit is kept.

Note: For this device, minimum separation distance is 20cm, even if calculations indicate MPE distance is less.

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

*****END OF REPORT *****