FCC RF Exposure Report

FCC ID	:	**ZMYGPT-2841GX2X2**
Equipment	:	**Router WiFi 6 PLUS** **Router FO HGU Dual Band 2.4 y 5Ghz**
Model No.	:	**GPT-2841GX2X2v10** **(Please refer to section 1.1.1 for more details)**
Brand Name	:	**MitraStar**
Applicant	:	**MitraStar Technology Corporation**
Address	:	**No. 6, Innovation Rd II, Science-Based Industrial, Hsin-Chu, Taiwan**
Standard	:	**47 CFR FCC Part 2.1091**
Received Date	:	**May 26, 2025**
Tested Date	:	**Jun. 10 ~ Jun. 23, 2025**

We, International Certification Corporation, would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by: **Approved by:**

Along Chen / Assistant Manager **Gary Chang / Manager**

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Release Record

Report No.	Version	Description	Issued Date
FA552603	Rev. 01	Initial issue	Jul. 24, 2025

1 General Description

1.1 Information

1.1.1 Product Details

The following models are provided to this EUT.

Brand Name	Model Name	Product Name	Description
MitraStar	GPT-2841GX2X2v10 GPT-2841GX2X2****	Router WiFi 6 PLUS Router FO HGU Dual Band 2.4 y 5Ghz	The denote of "*" in model number as 0-9, A-Z, a-z, -, blank, dot, etc. The variation of model number is for strategy of marketing. The circuit of each model is identical.

1.1.2 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	12Vdc from adapter
HW Version	1.0
FW/SW Version	GL_g0.0_100AVR0b3
SN	443B14B15598

2 RF Exposure Test Exemptions

2.1 1-mW TEST EXEMPTION

Available maximum time-averaged power is no more than 1 mW.

2.2 SAR-BASED EXEMPTION

This exemption is applicable to the frequency range between 300 MHz and 6 GHz, with test separation distances between 0.5 cm and 40 cm, and for all RF sources in fixed, mobile, and portable device exposure conditions.

The maximum time-averaged power or effective radiated power (ERP), whichever is greater, ≤ Pth

Pth (mW) = $ERP_{20cm}(d/20)^x$ d≤20cm
Pth (mW) = ERP_{20cm} 20 cm < d ≤40cm

Where $x = -\log_{10}\left(\frac{60}{ERP_{20cm}\sqrt{f}}\right)$

Pth (mW) = ERP_{20cm}(mW) = 2040f 0.3GHz ≤ f < 1.5 GHz
Pth (mW) = ERP_{20cm}(mW) = 3060 1.5GHz ≤ f < 6 GHz

Frequency (MHz)	Power Thresholds	
	mW	dBm
663	1353	31.31
699	1426	31.54
704	1436	31.57
777	1585	32.00
824	1681	32.26
902	1840	32.65
1500 ~ 6000	3060	34.86

2.3 MPE-BASED EXEMPTION

For a much wider frequency range, from 300 kHz to 100 GHz, applicable for separation distances greater or equal to λ/2π, where λ is the free-space operating wavelength in meters.

Radio Source Frequency			Minimum Distance			Threshold ERP
F_L MHz		F_H MHz	$\lambda_L / 2\pi$		$\lambda_H / 2\pi$	W
0.3	-	1.34	159 m	-	35.6 m	1920 R^2
1.34	-	30	35.6 m	-	1.6 m	3450 R^2/f^2
30	-	300	1.6 m	-	159 mm	3.83 R^2
300	-	1500	159 mm	-	31.8 mm	0.0128 R^2f
1500	-	100000	31.8 mm	-	0.5 mm	19.2 R^2

Note: R is the antenna-person separation distance.

2.4 REFERENCE GUIDANCE

447498 D04 Interim General RF Exposure Guidance v01

2.5 DEVIATION FROM TEST STANDARD AND MEASUREMENT PROCEDURE

None

2.6 MEASUREMENT UNCERTAINTY

The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)).

Parameters	Uncertainty
Conducted power	±0.808 dB

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

2.7 EXEMPTION CALCULATION

Non-beamforming mode

Frequency Range (MHz)	Maximum Conducted Power (dBm)	Maximum Tune Up Limit (dBm)	Antenna Gain (dBi)	EIRP (dBm)	ERP (dBm)	ERP (mW)	SAR-Based Exemption Thresholds (mW)	Ratio	Pass/ Fail
2412-2462	26.16	26.5	4.89	31.39	29.24	839.46	3060	0.274	Pass
5180-5240	26.25	26.5	5.03	31.53	29.38	866.96	3060	0.283	Pass
5260-5320	23.90	24	4.61	28.61	26.46	442.59	3060	0.145	Pass
5500-5720	23.82	24	4.92	28.92	26.77	475.34	3060	0.155	Pass
5745-5825	25.46	25.5	5.35	30.85	28.7	741.31	3060	0.242	Pass

Beamforming mode

Frequency Range (MHz)	Maximum Conducted Power (dBm)	Maximum Tune Up Limit (dBm)	Antenna Gain (dBi)	EIRP (dBm)	ERP (dBm)	ERP (mW)	SAR-Based Exemption Thresholds (mW)	Ratio	Pass/ Fail
2412-2462	21.24	21.5	7.85	29.35	27.2	524.81	3060	0.172	Pass
5180-5240	23.03	23.5	7.91	31.41	29.26	843.33	3060	0.276	Pass
5260-5320	20.89	21	7.59	28.59	26.44	440.55	3060	0.144	Pass
5500-5720	20.81	21	7.65	28.65	26.5	446.68	3060	0.146	Pass
5745-5825	22.45	22.5	8.24	30.74	28.59	722.77	3060	0.236	Pass

Note:
Minimum separation distance = 20 cm.

2.8 MPE EVALUATION OF SIMULTANEOUS TRANSMISSION

Non-beamforming mode

Mode	Max Ratio of Each Mode
2.4 GHz Wi-Fi	0.274
5 GHz Wi-Fi	0.283
Sum	0.557
Limit	1
Pass / Fail	Pass

Beamforming mode

Mode	Max Ratio of Each Mode
2.4 GHz Wi-Fi	0.172
5 GHz Wi-Fi	0.276
Sum	0.448
Limit	1
Pass / Fail	Pass

3 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corporation (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website http://www.icertifi.com.tw.

Linkou

Tel: 886-2-2601-1640

No.30-2, Ding Fwu Tsuen, Lin Kou District, New Taipei City, Taiwan (R.O.C.)

Kwei Shan

Tel: 886-3-271-8666

No.3-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

No.2-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

Kwei Shan Site II

Tel: 886-3-271-8640

No.14-1, Lane 19, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

If you have any suggestion, please feel free to contact us as below information.

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Fax: 886-3-318-0345
Email: ICC_Service@icertifi.com.tw

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