

RF EXPOSURE REPORT



Applicant: MediaTek Inc.
No. 1, Dusing 1st Rd. Hsinchu Science Park, Hsinchu City,
30078, Taiwan

Manufacturer: MediaTek Inc.
No. 1, Dusing 1st Rd. Hsinchu Science Park, Hsinchu City,
30078, Taiwan

Product Name: 2TX 11ax (WiFi6E) BW160+BT/BLE Combo Card

Brand Name: MediaTek

Model No.: MT7922A22M

Model Difference: N/A

Report Number: TESA2309000544ES

FCC ID RAS-MT7922A22M

Date of EUT Received: September 22, 2023

Issue Date: December 4, 2023

Approved By

John Yeh

We hereby certify that:

The above equipment was evaluated by SGS Taiwan Ltd. The evaluation in this report is in compliance with FCC Rule Part §2.1091.

The results of this report relate only to the sample identified in this report.

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Revision History

Report Number	Revision	Description	Issue Date	Revised By	Remark
TESA2309000544ES	00	Original.	November 20, 2023	Susan Lin	
TESA2309000544ES	01	1. Update applicant and manufacturer 2. Add module information 3. Update MPE data	December 4, 2023	Susan Lin	*

Note:

- 1、The remark "*" indicates modification of the report upon requests from certification body.

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1 DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

1.1 Product Description

Product Name:	2TX 11ax (WiFi6E) BW160+BT/BLE Combo Card
Brand Name:	MediaTek
Model No.:	MT7922A22M
Product Name of Host:	Cooling X
Brand Name of Host:	Be Excellent line
Model No. of Host:	ASP-CXA9-N86CN
Model Difference:	N/A
Hardware Version:	N/A
Firmware Version:	N/A
EUT Series No.:	ASPCXA9N86CNR11231500010
Power Supply:	230V AC

1.2 Evaluation site

Laboratory		Site Address	FCC Designation number	ISED Company Number	CAB Identifier
SGS Taiwan Ltd. Central RF Lab. (TAF code 3702)	<input checked="" type="checkbox"/>	No. 134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, 24803, Taiwan.	TW0027	4620A	TW3702
	<input type="checkbox"/>	No. 2, Keji 1st Rd., Guishan Township, Taoyuan County, 333 Taiwan.	TW0028	4620E	
	<input type="checkbox"/>	1F, No. 8, Alley 15, Lane 120, Sec. 1, Nei Hu Road, Nei Hu District, Taipei City, 222 Taiwan.	TW0029	23862	

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1.3 Antenna Information:

The antenna information is provided by the applicant.

Antenna Type	Supplier	ANT	Antenna Part No.	Freq. (MHz)	Peak Antenna Gain (dBi)	MIMO Antenna Gain (dBi)
PIFA	INPAQ	ANT1	RFPCA573205SBLB301	2400~2500	2.20	5.04
		ANT2			1.85	
PIFA	INPAQ	ANT1	RFPCA573205SBLB301	5150~5850	3.29	6.36
		ANT2			3.40	
PIFA	INPAQ	ANT1	RFPCA573205SBLB301	5925~7125	4.19	7.20
		ANT2			4.18	

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2 FCC MAXIMUM PERMISSIBLE EXPOSURE (MPE)

2.1 FCC Standard Applicable

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

This is a Mobile device, the MPE is required.

According to §1.1310 and §2.1091 RF exposure is calculated.

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 (minute)
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
300-1500	/	/	f/1500	30
1500-100000	/	/	1.0	30

f = frequency in MHz

* = Plane-wave equipment power density

Prediction of MPE limit at a given distance

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

Where: S = Power density

P = Power input to antenna

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

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2.2 Power Density Calculation (Worst Case)

FCC Standalone MPE

Operation Mode	Evaluation Frequency (MHz)	Operation Distance (cm)	Max. Output Power Include Tolerance (dBm)	Antenna Gain (dBi)	Max. EIRP (mW)	Power Density (PD) (mW/cm ²)	Limit (mW/cm ²)	Pass / Fail	Power Density / Limit	Collocated MPE
BT	2480.00	20	13	2.20	33.11	0.0066	1.000	Pass	0.007	V
WLAN 2.4G	2442.00	20	17	5.04	159.96	0.032	1.000	Pass	0.032	V
WLAN 5G	5850.00	20	19	6.36	343.56	0.068	1.000	Pass	0.068	V
WLAN 6G	7125.00	20	13.5	7.20	117.49	0.023	1.000	Pass	0.023	V

2.3 Collocated Power Density Calculation

FCC Collocated MPE

Operation Mode	Σ (Power Density / Limit)
BT+WLAN 5G	0.075
WLAN 2.4G+WLAN 2.4G	0.064
WLAN 5G+WLAN 5G	0.136
WLAN 5G+WLAN 5G+BT	0.143
WLAN 6G+WLAN 6G	0.046
WLAN 6G+WLAN 6G+BT	0.053

Note:

1. $\Sigma(\text{Power Density} / \text{Limit})$: This is a summation of [(Power Density for each transmitter/antenna included in the simultaneous transmission) / (corresponding MPE limit)].
2. Considering the collocated transmitters, the aggregated (Power Density /limit) is smaller than 1, and MPE of collocated transmitters is compliant.

~ End of Report ~

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