

RF EXPOSURE REPORT



FCC Applicant: silex technology, Inc.
2-3-1 Hikaridai, Seika-cho, Soraku-gun, Kyoto 619-0237,
Japan
Product Name: SX-PCEAX
Brand Name: Silex Technology
Model No.: SX-PCEAX
Model Difference: N/A
Report Number: TESA2304000233ES
FCC ID N6C-PCEAX
Issue Date: May. 17, 2023
Date of EUT Received: Apr. 20, 2023

Approved By

John Yeh

We hereby certify that:

The above equipment was evaluate by SGS Taiwan Ltd. The evaluation in this report is in compliance with FCC Rule Part §1.1307.

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

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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Revision History

Report Number	Revision	Description	Issue Date	Revised By	Remark
TESA2304000233ES	00	Original	May. 17, 2023	Cindy Chou	

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:	SX-PCEAX
Brand Name:	Silex Technology
Model No.:	SX-PCEAX
Model Difference:	N/A

1.2 Evaluation site

Laboratory	Site Address		FCC Designation number	ISED Company Number	CAB Identifier
SGS Taiwan Ltd. Central RF Lab. (TAF code 3702)	☒	No. 134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, 24803, Taiwan.	TW0027	4620A	TW3702
	☐	No. 2, Keji 1st Rd., Guishan Township, Taoyuan County, 333 Taiwan.	TW0028	4620E	
	☐	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.

1.3.1 BT / WLAN 2.4GHz

Antenna Type	Supplier	Chain 0 / Chain 1	Antenna Part No.	Freq. (MHz)	Peak Antenna Gain (dBi)	MIMO Antenna Gain (dBi)
Monopole	TE connectivity	Chain 0	2118907-8	2.4GHz	2.31	5.32
		Chain 1				
Monopole	Taoglas	Chain 0	GW.05.0153	2.4GHz	0.37	3.38
		Chain 1				

1.3.2 WLAN 5GHz

Antenna Type	Supplier	Antenna Part No.	Chain 0 / Chain 1	Note
Monopole	TE connectivity	2118907-8	Chain 0	Ant 1
			Chain 1	Ant 2
Monopole	Taoglas	GW.05.0153	Chain 0	Ant 3
			Chain 1	Ant 4

Operating Frequency (MHz)			Ant 1 Peak Gain (dBi)	Ant 2 Peak Gain (dBi)	Ant 3 Peak Gain (dBi)	Ant 4 Peak Gain (dBi)
5150.0	~	5250.0	1.44	1.44	1.69	1.69
5250.0	~	5350.0	2.09	2.09	1.92	1.92
5470.0	~	5725.0	2.81	2.81	2.18	2.18
5725.0	~	5850.0	1.71	1.71	2.43	2.43
5845.0	~	5885.0	2.27	2.27	2.07	2.07
5925.0	~	6425.0	2.99	2.99	3.09	3.09
6425.0	~	6525.0	2.70	2.70	2.94	2.94
6525.0	~	6875.0	3.23	3.23	2.55	2.55
6875.0	~	7125.0	2.02	2.02	2.48	2.48

Note: Antenna information is provided by the applicant.

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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)

Muti TX

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
BT	2480	20	16	5.32	135.52	0.0270	1.000	Pass	0.027
WLAN 2.4G	2442	20	22.5	5.32	605.34	0.120	1.000	Pass	0.120
WLAN 5G	5470	20	22	5.82	605.34	0.120	1.000	Pass	0.120
WLAN 5.9G	5845	20	20.07	5.28	342.77	0.068	1.000	Pass	0.068
WLAN 6G	6525	20	19	6.24	334.20	0.067	1.000	Pass	0.067

2.3 Collocated Power Density Calculation

FCC Collocated MPE

Operation Mode	Σ (Power Density / Limit)
2.4G + 6G	0.187
2.4G +5G	0.240
2.4G + 5.9G	0.188
6G +BT	0.094
5G +BT	0.147
5.9G + BT	0.095

Note:

1. Σ (Power Density / 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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