

RF EXPOSURE REPORT



Applicant: Silex Technology, Inc.
2-3-1 Hikaridai, Seika-cho, Soraku-gun, Kyoto 619-0237,
Japan

Manufacturer: Silex Technology, Inc.
2-3-1 Hikaridai, Seika-cho, Soraku-gun, Kyoto 619-0237,
Japan

Product Name: Embedded wireless module

Brand Name: Silex Technology

Model No.: SX-PCEAX

Report Number: TESA2305000264ES

FCC ID N6C-PCEAX

Date of EUT Received: April 26, 2023

Issue Date: November 23, 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 §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
TESA2305000264ES	00	Original.	November 9, 2023	Susan Lin	
TESA2305000264ES	01	Revise the Firmware Version	November 23, 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:	Embedded wireless module
Brand Name:	Silex Technology
Model No.:	SX-PCEAX
Hardware Version:	N/A
Firmware Version:	HY103710
EUT Series No.:	1CBCEC011DAC
Power Supply:	3.3Vdc

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:

Antenna Type	Antenna Part No.	Freq. (MHz)	Peak Antenna Gain (dBi)	MIMO Antenna Gain (dBi)
Dipole	146153	2.4GHz	3.175	6.185
Dipole	AA258	2.4GHz	2.67	5.68

Ant. Type	Part No.	Freq.(MHz)	Peak Gain (dBi)	Directional Gain (dBi)
Dipole	146153	5150~5250	3.175	6.185
		5250~5350	2.975	5.985
		5470~5725	4.275	7.285
		5725~5850	3.775	6.785
		5850~5895	4.875	7.885
Dipole	AA258	5150~5250	3.220	6.230
		5250~5350	3.910	6.920
		5470~5725	2.770	5.780
		5725~5850	3.920	6.930
		5850~5895	4.400	7.410

Ant. Type	Part No.	Freq.(MHz)	Peak Gain (dBi)	Directional Gain (dBi)
Dipole	146153	5925~6425	5.025	8.035
		6425~6525	5.225	8.235
		6525~6875	5.425	8.435
		6875~7125	5.825	8.835
Dipole	AA258	5925~6425	3.590	6.600
		6425~6525	3.630	6.640
		6525~6875	2.330	5.340
		6875~7125	1.370	4.380

Note:

- Antenna information is provided by the applicant.
- As per section F. 2). e). (ii) of FCC KDB 662911 D01

If antenna gains are not equal and each transmit antenna is driven by only one spatial stream, directional gain may be calculated by either of the following formulas.

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$$\bullet \quad DirectionalGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;

NSS = the number of independent spatial streams of data;

NANT = the total number of antennas

$g_{j,k} = 10^{G_k/20}$ if the kth antenna is being fed by spatial stream j, or zero if it is not;

G_k is the gain in dBi of the kth antenna.

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1.4 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	13	3.175	41.45	0.0083	1.000	Pass	0.008
WLAN 2.4G	2442	20	22	6.185	658.42	0.131	1.000	Pass	0.131
WLAN 5.2G	5250	20	22.15	6.230	688.65	0.137	1.000	Pass	0.137
WLAN 5.3G	5350	20	22.14	6.920	805.38	0.160	1.000	Pass	0.160
WLAN 5.6G	5725	20	21	7.285	673.75	0.134	1.000	Pass	0.134
WLAN 5.8G	5850	20	22	6.930	781.63	0.156	1.000	Pass	0.156
WLAN 5.9G	5845	20	19.5	7.885	547.65	0.109	1.000	Pass	0.109
WLAN 6G	6525	20	10	8.840	76.56	0.015	1.000	Pass	0.015

1.5 Collocated Power Density Calculation

FCC Collocated MPE

Operation Mode	Σ (Power Density / Limit)
2.4G + 6G	0.146
2.4G +5G	0.287
2.4G + 5.9G	0.240
6G +BT	0.023
5G +BT	0.164
5.9G + BT	0.117

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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