



RF EXPOSURE REPORT



Applicant: Sensitech INC.
800 Cummings Ctr Suite 258X, Beverly, Massachusetts,
United States 01915

Manufacturer: Team Precision PCL.
198 MOO 13, Suwansorn Rd., Dong-Khee-Lek, Muang
Prachinburi, Thailand

Product Name: Temp/Humidity Data Logger / Tracker

Brand Name: Sensitech

Model No.: T11013210, T11013220, T11013230, T11013240

Model Difference: Please refer to section 1.4 for more details.

Report Number: TESA2308000496ES

FCC ID SRM-010166SST

Date of EUT Received: June 15, 2023

Issue Date: October 13, 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
TESA2308000496ES	00	Original	September 8, 2023	Celery Wei	
TESA2308000496ES	01	1. Revise applicant and manufacturer information 2. Add BLE information	September 26, 2023	Celery Wei	*
TESA2308000496ES	02	Revised collocated results	October 6, 2023	Celery Wei	*
TESA2308000496ES	03	Revised BLE power density	October 13, 2023	Celery Wei	*

Note:

- 1、The remark "*" indicates modification of the report upon requests from certification body.
- 2、Variant information of model numbers is provided by the applicant, test results of this report are applicable to the sample EUT(s) received.
And are assessed as electrically identical in RF characteristics, therefore, no further assessment required for the variant(s).

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1 DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

1.1 Product Description

Product Name:	Temp/Humidity Data Logger / Tracker
Brand Name:	Sensitech
Model No.:	T11013210, T11013220, T11013230, T11013240
Model Difference:	Please refer to section 1.4 for more details.
Hardware Version:	R2.1
Firmware Version:	SVN 03
EUT Series No.:	MEG9J000Q4
Power Supply:	4.5Vdc from alkaline battery / 6Vdc from lithium battery

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, Neihu District, Taipei City, 222 Taiwan.	TW0029	23862	

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1.3 Antenna Information:

1.3.1 BLE

Antenna Type	Supplier	Antenna Part No.	Freq. (MHz)	Peak Antenna Gain (dBi)
Ceramic Chip	ABRACON	ACAG0301-2450-T	2402~2480	5.19

Note: Antenna information is provided by the applicant.

1.3.2 WWAN

Operating Frequency (MHz)				Ant 0 Peak Gain (dBi)
GSM / GPRS / EDGE 850	824	~	849	2.34
GSM / GPRS / EDGE 1900	1850	~	1910	1.52
LTE-Band 2	1850	~	1910	1.52
LTE-Band 4	1710	~	1755	0.17
LTE-Band 5	824	~	849	2.34
LTE-Band 12	699	~	716	3.15
LTE-Band 13	777	~	787	2.58
LTE-Band 26	824	~	849	2.34
LTE-Band 26 Part 90	814	~	824	2.45

Note: Antenna information is provided by the applicant.

1.4 Model difference

	Part number	Description	battery type	Remarks
MAIN	T11013220	TTGEO XE, Air Temperature Tracker, Extended	Lithium	without probe
Variant 1	T11013210	TTGEO X, Air Temperature Tracker Non-Lithium	Alkaline	without probe
Variant 2	T11013230	TTGEO XP, Air Probe Temperature Tracker, Non-Lithium	Alkaline	with probe
Variant 3	T11013240	TTGEO XEP, Air Probe Temperature Tracker, Extended	Lithium	with probe

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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)

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
BLE	2480.00	20	5.69	5.19	12.25	0.0024	1.000	Pass	0.002	V
GSM850	826.40	20	25.25	2.34	574.12	0.114	0.551	Pass	0.207	V
GSM1900	1852.40	20	23.64	1.52	328.10	0.065	1.000	Pass	0.065	
LTE-Band 2	1850.70	20	20.92	1.52	175.39	0.035	1.000	Pass	0.035	
LTE-Band 4	1710.70	20	20.83	0.17	125.89	0.025	1.000	Pass	0.025	
LTE-Band 5	824.70	20	20.87	2.34	209.41	0.042	0.550	Pass	0.076	
LTE-Band 12	699.70	20	20.46	3.15	229.61	0.046	0.466	Pass	0.099	
LTE-Band 13	779.50	20	20.31	2.58	194.54	0.039	0.520	Pass	0.075	
LTE-Band 26	824.70	20	20.49	2.34	191.87	0.038	0.550	Pass	0.069	
LTE-Band 26 Part 90	814.70	20	20.52	2.45	198.15	0.039	0.543	Pass	0.072	

Note: For conservativeness, the lowest uplink frequency of each band is used to determine the MPE limit of that band.

2.3 Collocated Power Density Calculation

FCC Collocated MPE		
Operation Mode	Power Density / Limit	Σ (Power Density / Limit)
BLE	0.002	0.209
GSM850	0.207	

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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