

MAXIMUM PERMISSIBLE EXPOSURE EVALUATION REPORT

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Product Name: Smart Telescope

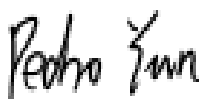
FCC ID: 2A7R3-SEESTARS30

Standard(s): 47 CFR §1.1310, 47 CFR §2.1091,
47 CFR §15.247(i), 47 CFR §15.407(f)

Report Number: 2402Y99315E-RF-00E

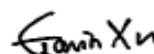
Report Date: 2024/12/5

The above device has been tested and found compliant with the requirement of the relative standards by Bay Area Compliance Laboratories Corp. (Dongguan).



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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	2402Y99315E-RF-00E	Original Report	2024/12/5

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

EUT Name:	Smart Telescope
Trade Name:	Seestar
EUT Model:	Seestar S30
Rated Input Voltage:	DC 3.7V From Battery or DC 5~12V From Type-C
Serial Number:	2SWA-1
EUT Received Date:	2024/10/16
EUT Received Status:	Good

1.2 Accessory Information

Accessory Description	Manufacturer	Model	Parameters
Type-C Cable	/	/	Unshielded without Ferrite Core, 1.0 meter
Tripod	/	/	/
Solar Filter	/	/	/

1.3 Antenna Information Detail[▲]

Antenna Type	Input Impedance (Ohm)	Frequency Range	Antenna Gain
PCB	50	2.4-2.5GHz	3.27dBi
		5.15~5.25GHz	5.33dBi
		5.70~5.85 GHz	4.23dBi

1.4 Equipment Modifications

No modifications are made to the EUT during all test items.

2. RF EXPOSURE EVALUATION (MPE)

2.1 RF Exposure Evaluation

2.1.1 Applicable Standard

According to subpart 15.247(i), 15.407(f) and subpart §1.1310, systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minutes)
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
1500–100,000	/	/	1.0	30

f = frequency in MHz; * = Plane-wave equivalent power density;

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

2.1.2 Calculation formula:

Prediction of power density at the distance of the applicable MPE limit

$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm²);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

2.1.3 Calculated Data

Mode	Frequency Range (MHz)	Antenna Gain		Conducted output power including Tune-up Tolerance		Evaluation Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
		(dBi)	(numeric)	(dBm)	(mW)			
BDR/EDR	2402-2480	3.27	2.123	5.0	3.16	20	0.001	1.00
BLE	2402-2480	3.27	2.123	4.0	2.51	20	0.001	1.00
2.4GHz WIFI	2412-2462	3.27	2.123	23.0	199.53	20	0.084	1.00
5.2GHz WIFI	5180-5240	5.33	3.412	14.0	25.12	20	0.017	1.00
5.8GHz WIFI	5745-5825	4.23	2.649	15.0	31.62	20	0.017	1.00

Note:

1. The Conducted output power including Tune-up Tolerance provided by manufacturer.
2. The Bluetooth BDR/EDR, BLE and WIFI can't transmit simultaneously.
3. The distance from observation point to the antenna is 20cm.

Result: Compliant.

EXHIBIT A - EUT PHOTOGRAPHS

Please refer to the attachment 2402Y99315E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and 2402Y99315E -RF-INP EUT INTERNAL PHOTOGRAPHS.

******* END OF REPORT *******