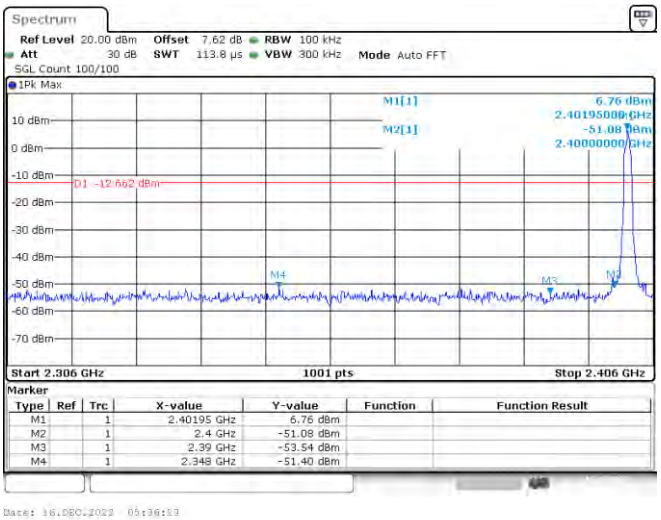
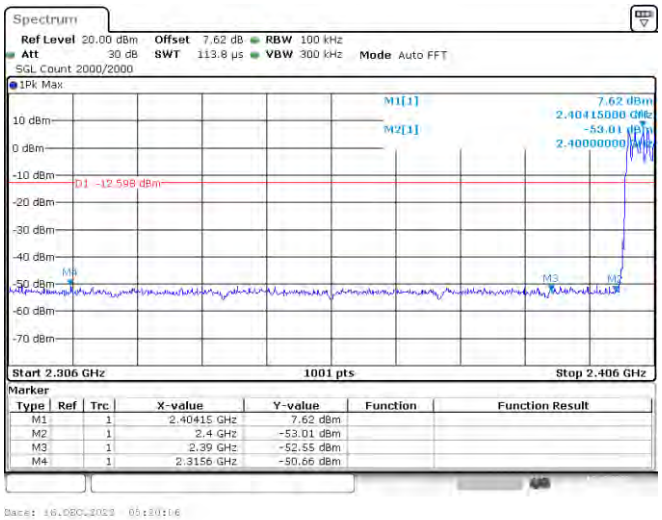
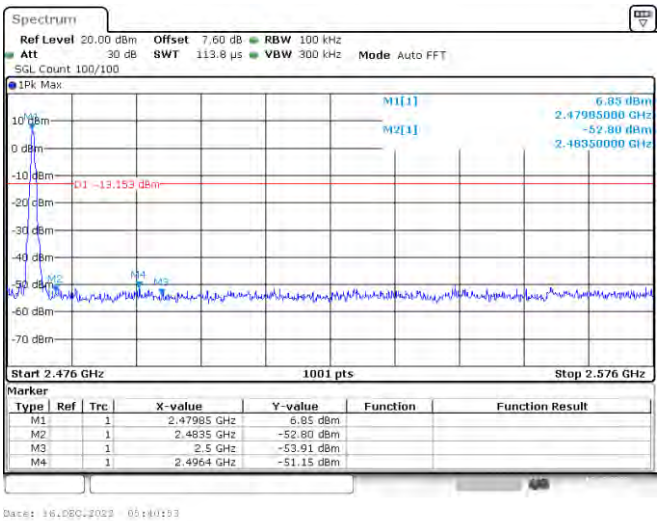
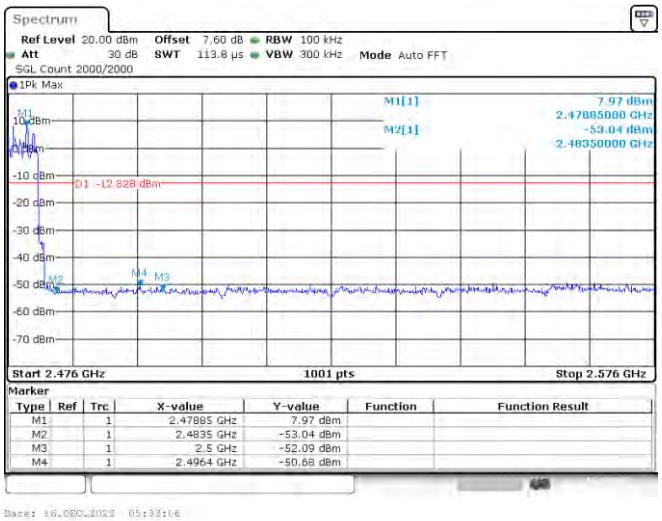
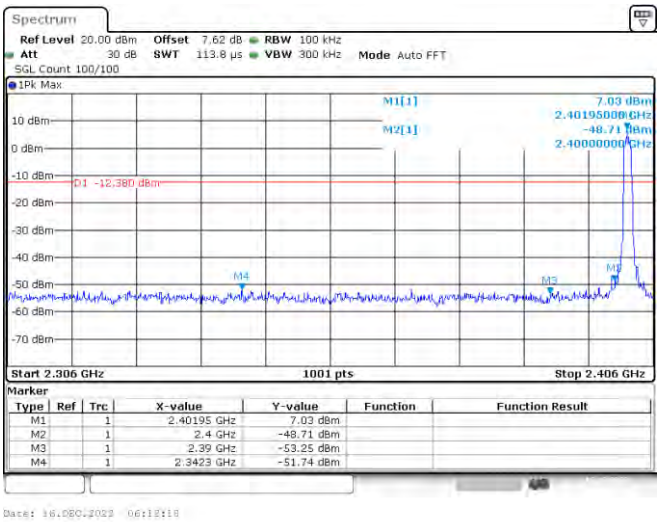
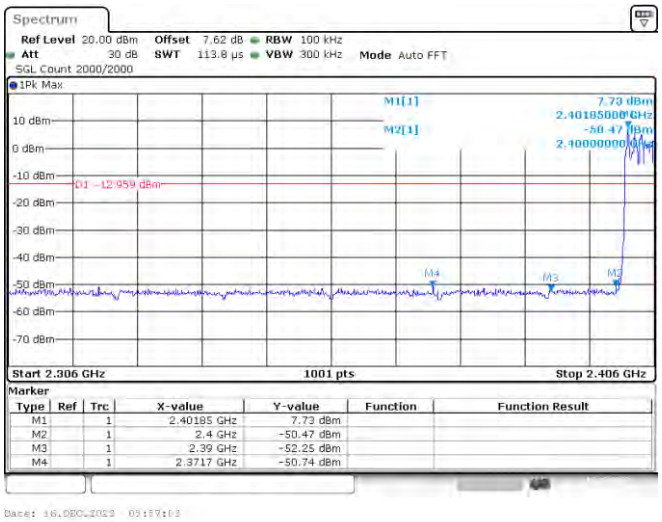
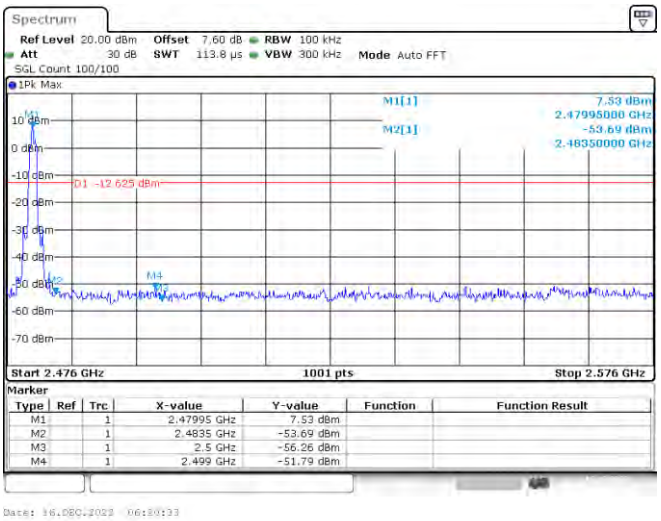
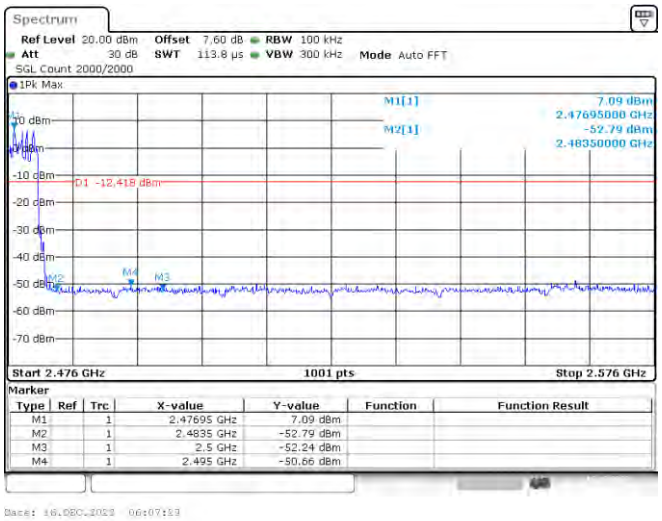
π/4DQPSK Mode:

Test channel:	Lowest channel
	
No-hopping mode	Hopping mode

Test channel:	Highest channel
	
No-hopping mode	Hopping mode

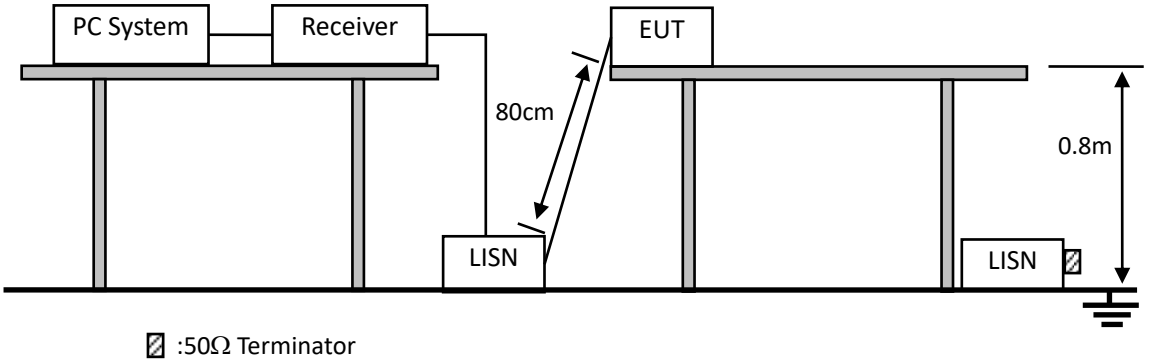
8DPSK Mode:

Test channel:	Lowest channel
	
No-hopping mode	Hopping mode

Test channel:	Highest channel
	
No-hopping mode	Hopping mode

10. POWER LINE CONDUCTED EMISSIONS

10.1.Block Diagram of Test Setup



10.2.Limit

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. * Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

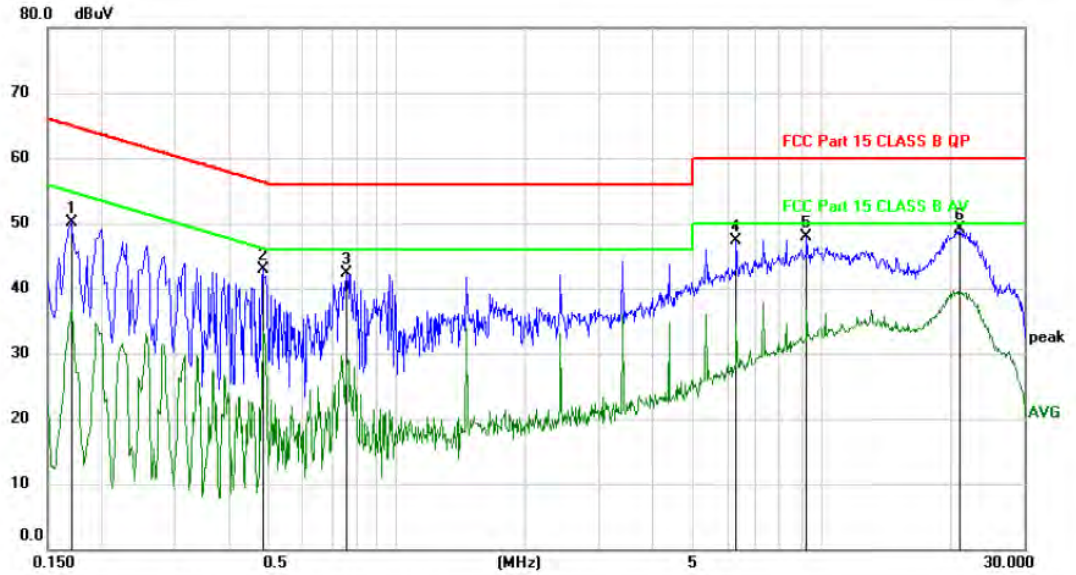
10.3.Test Procedure

(1) The EUT was placed on a non-metallic table, 80cm above the ground plane.
(2) Setup the EUT and simulator as shown in 10.1
(3) The EUT Power connected to the power mains through a power adapter and a line impedance stabilization network (L.I.S.N1). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N2), this provided a 50-ohm coupling impedance for the EUT (Please refer to the block diagram of the test setup and photographs). Both sides of power line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10 :2013on conducted Emission test.
(4) The bandwidth of test receiver is set at 10KHz.
(5) The frequency range from 150 KHz to 30MHz is checked.

10.4.Test Result

PASS. (See below detailed test data)
Note: If peak Result comply with AV limit, QP and AV Result is deemed to comply with AV limit

Line:

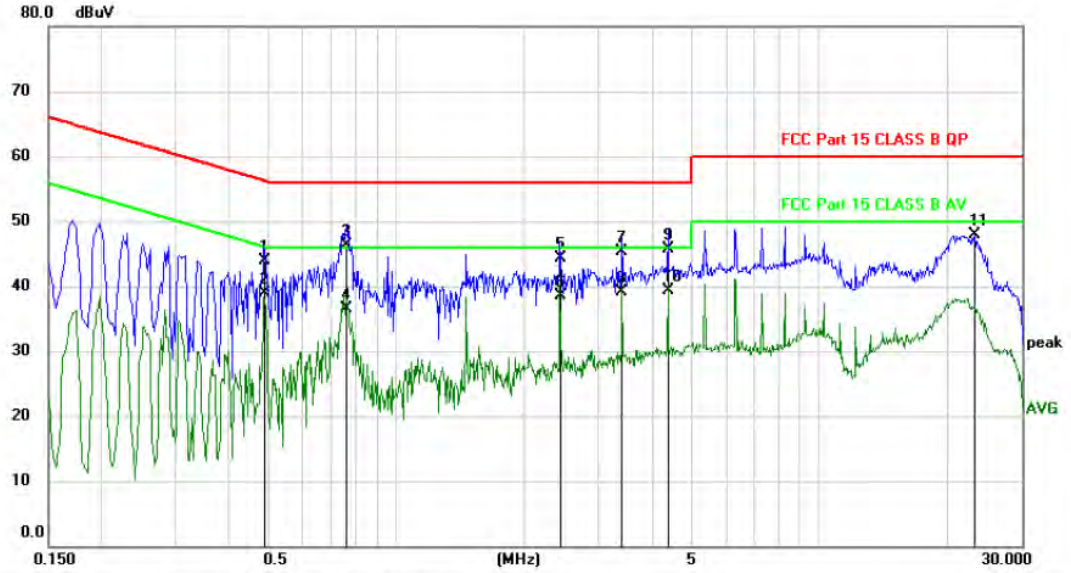


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1710	40.27	9.93	50.20	64.91	-14.71	peak	
2		0.4830	33.02	9.96	42.98	56.29	-13.31	peak	
3		0.7590	32.31	9.94	42.25	56.00	-13.75	peak	
4		6.3120	37.14	10.09	47.23	60.00	-12.77	peak	
5		9.2370	37.78	10.19	47.97	60.00	-12.03	peak	
6	*	21.1860	38.55	10.47	49.02	60.00	-10.98	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

Note: Measurement=Reading Level+Correc Factor. Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

Neutral:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.4869	33.99	9.96	43.95	56.22	-12.27	QP	
2		0.4869	28.96	9.96	38.92	46.22	-7.30	AVG	
3		0.7582	36.39	9.94	46.33	56.00	-9.67	QP	
4		0.7582	26.51	9.94	36.45	46.00	-9.55	AVG	
5		2.4364	34.38	9.90	44.28	56.00	-11.72	QP	
6		2.4364	28.58	9.90	38.48	46.00	-7.52	AVG	
7		3.4094	35.30	9.96	45.26	56.00	-10.74	QP	
8		3.4094	29.14	9.96	39.10	46.00	-6.90	AVG	
9		4.3850	35.78	10.00	45.78	56.00	-10.22	QP	
10	*	4.3850	29.22	10.00	39.22	46.00	-6.78	AVG	
11		23.1720	37.40	10.45	47.85	60.00	-12.15	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

Note: Measurement=Reading Level+Correc Factor. Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

Note: All modes and channels have been tested and only the GFSK 2402MHz mode with the worst data is listed.

11. ANTENNA REQUIREMENTS

11.1.Limit

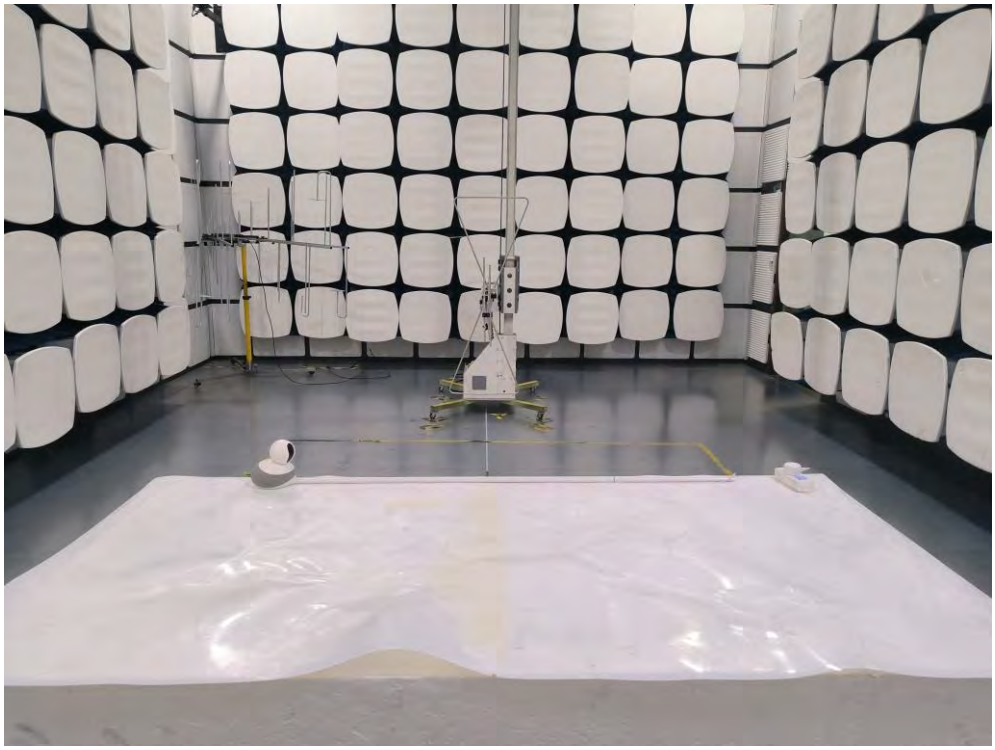
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

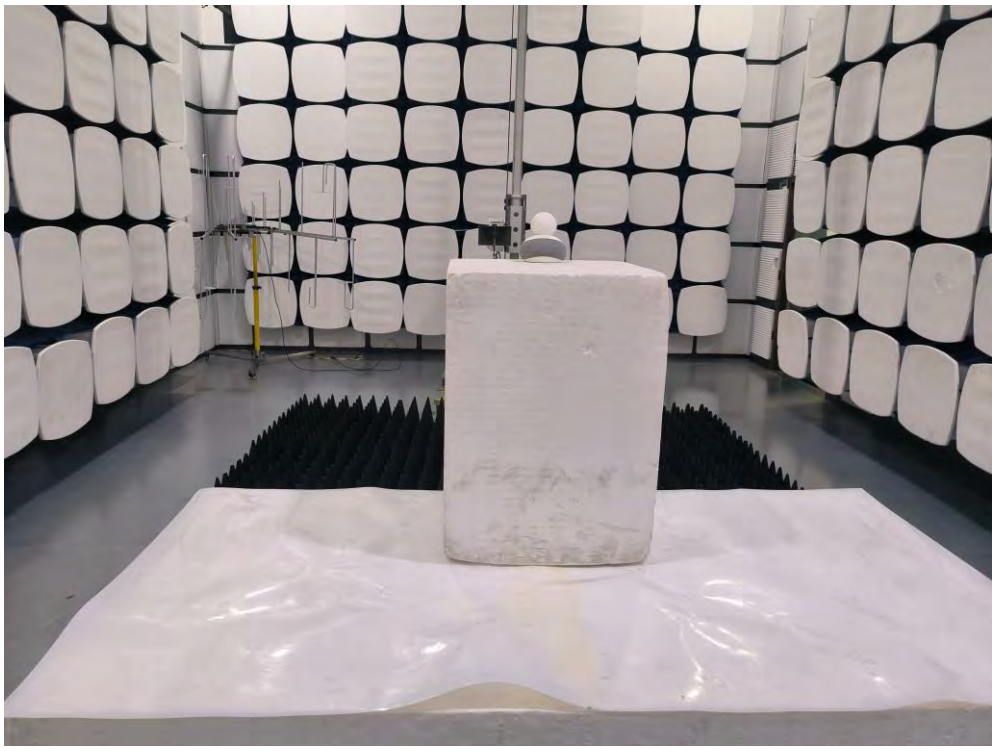
11.2.Result

The EUT antenna is Internal Antenna. It complies with the standard requirement.

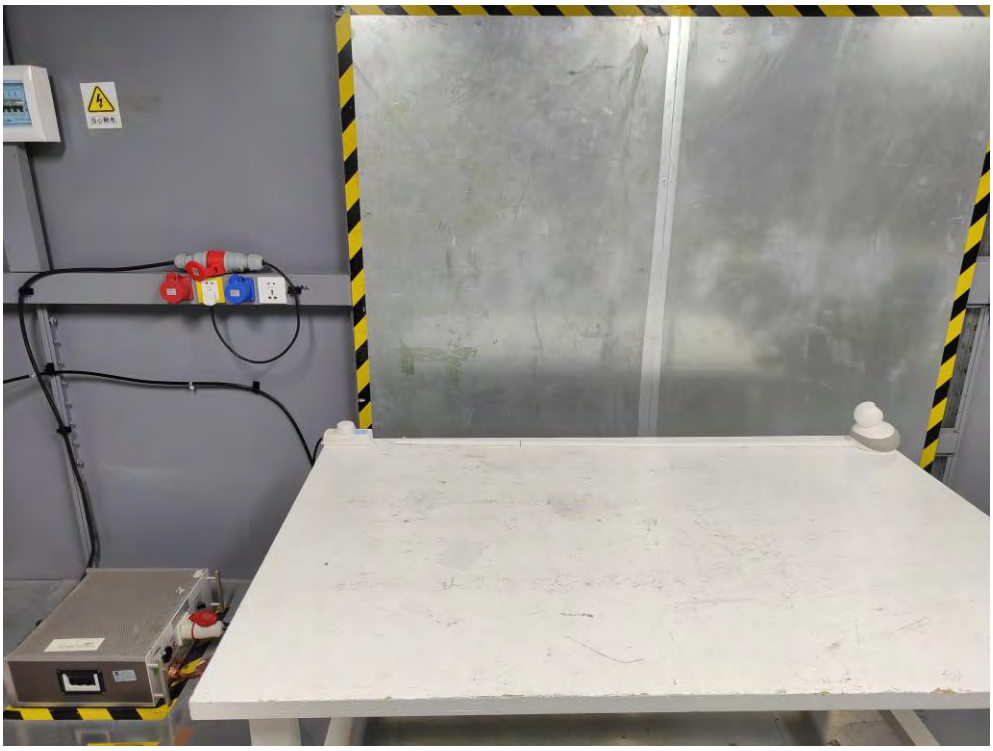
12. TEST SETUP PHOTO

12.1.Photo of Radiated Emission test



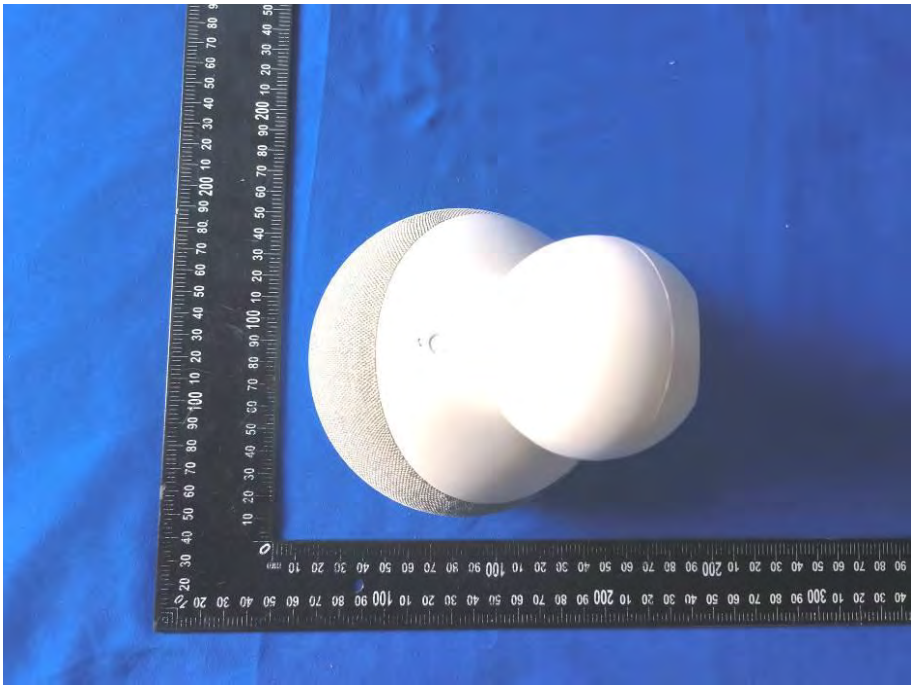


12.2.Photo of Conducted Emission test

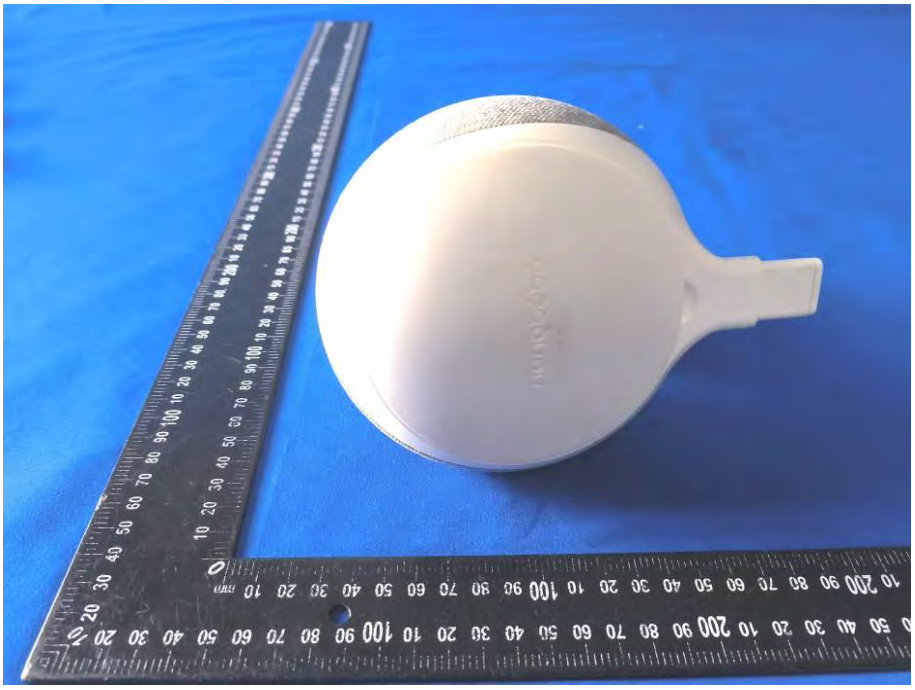


13. EUT Photo

EUT View



EUT View



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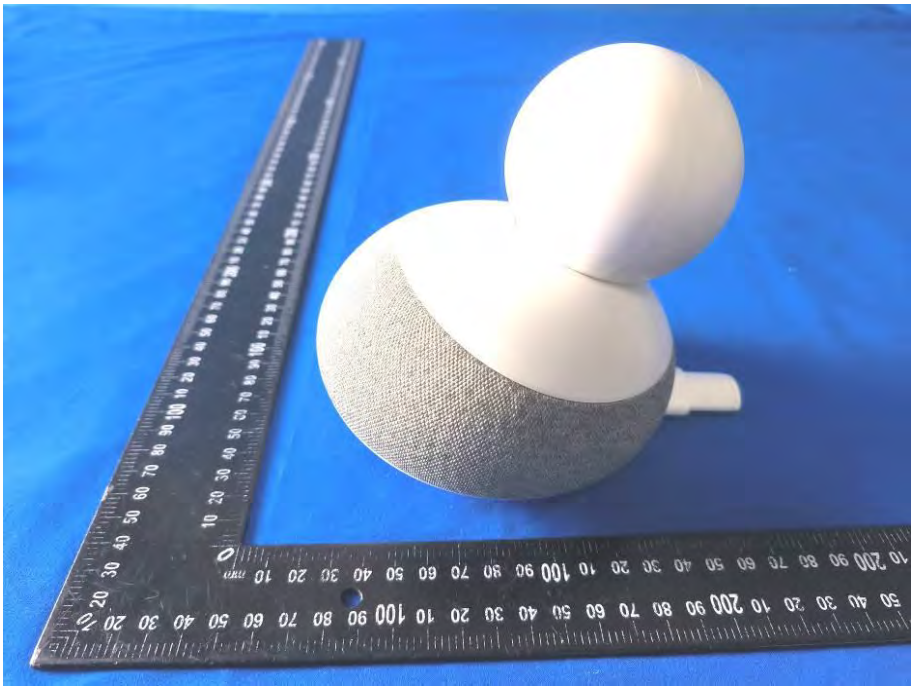

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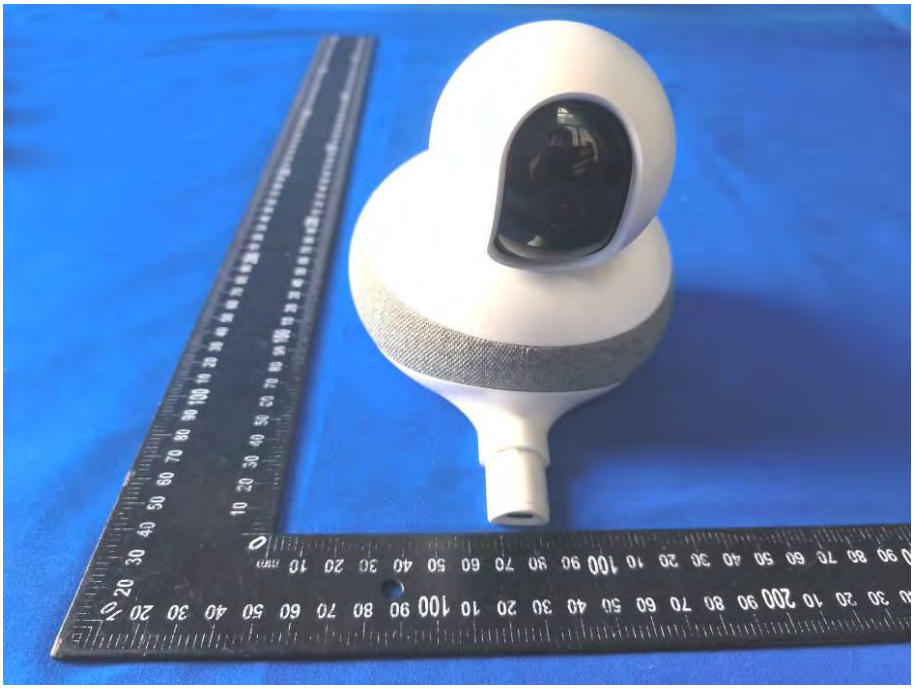

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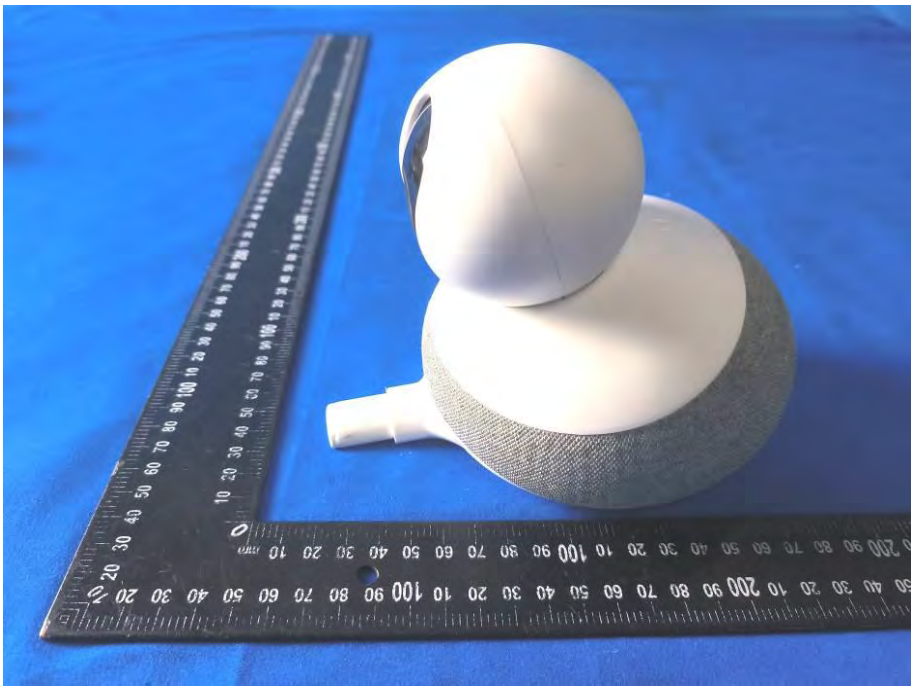

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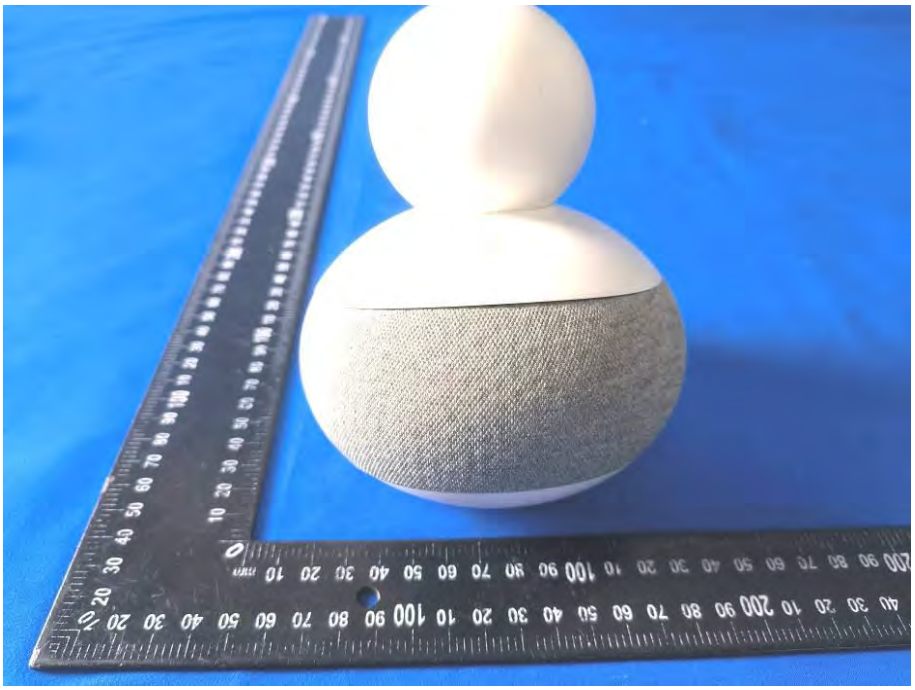

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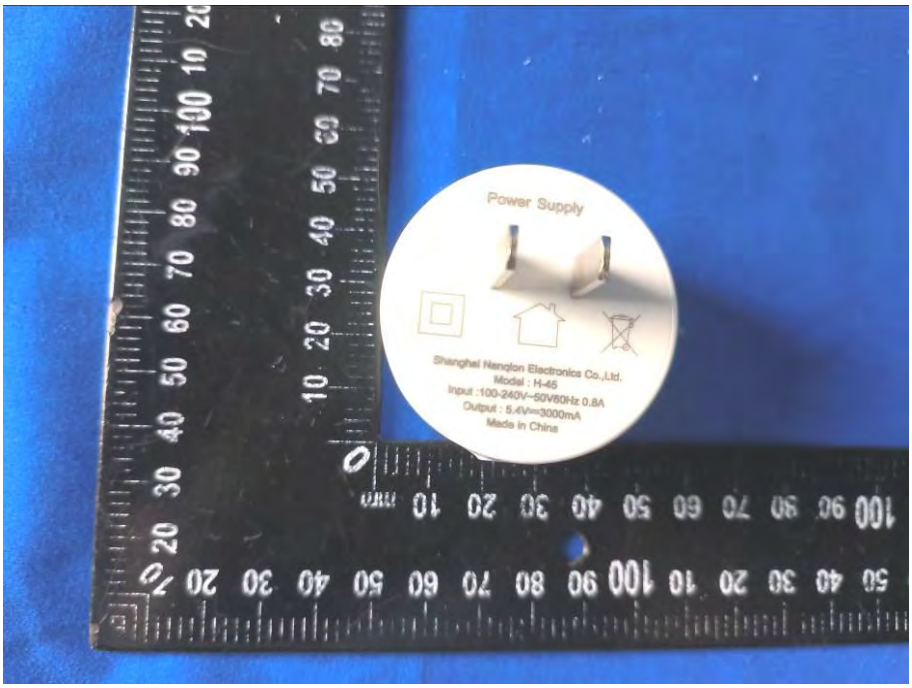

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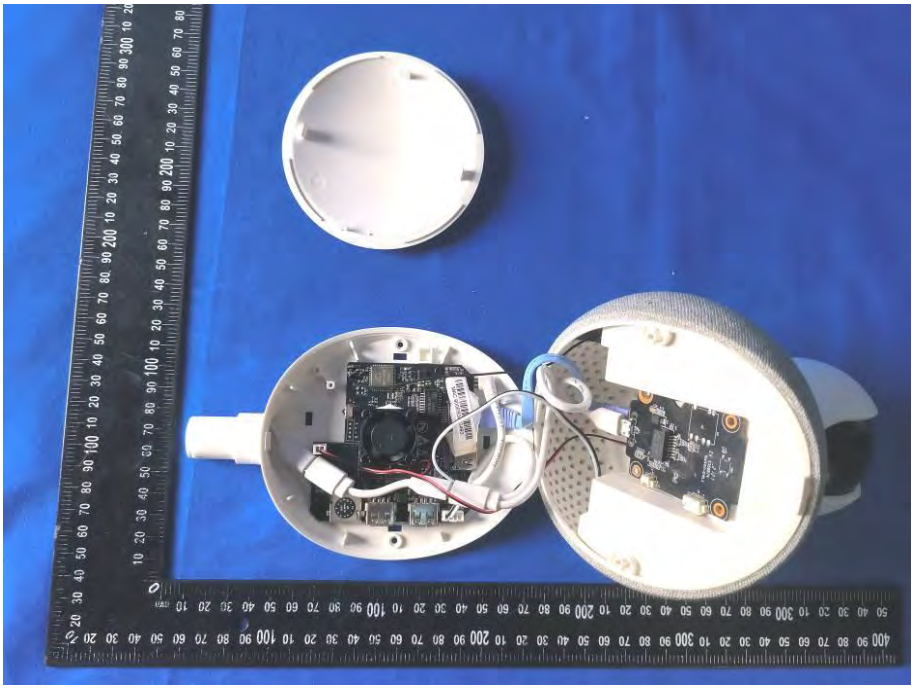

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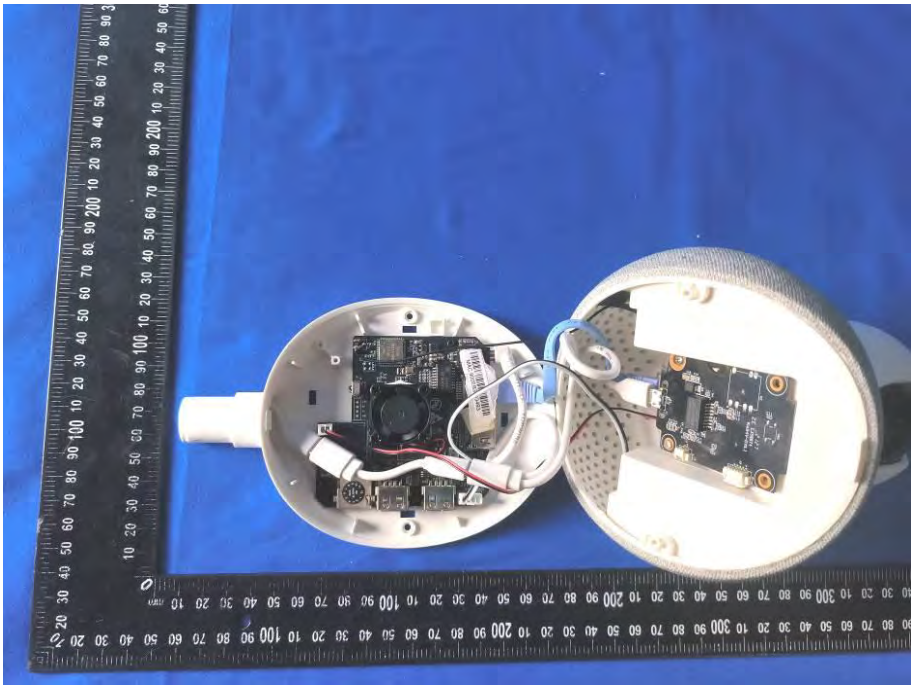

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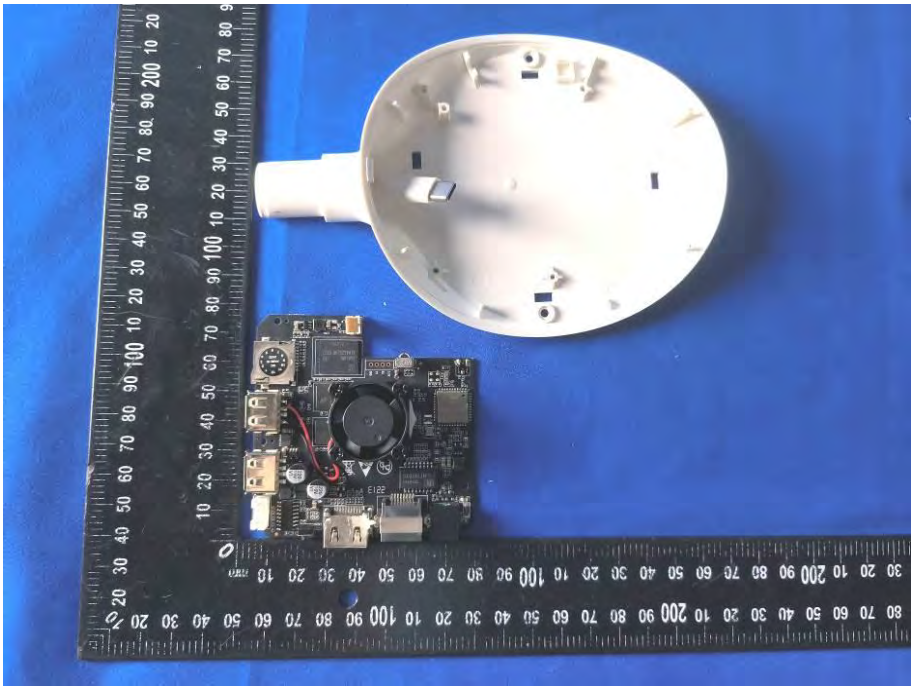

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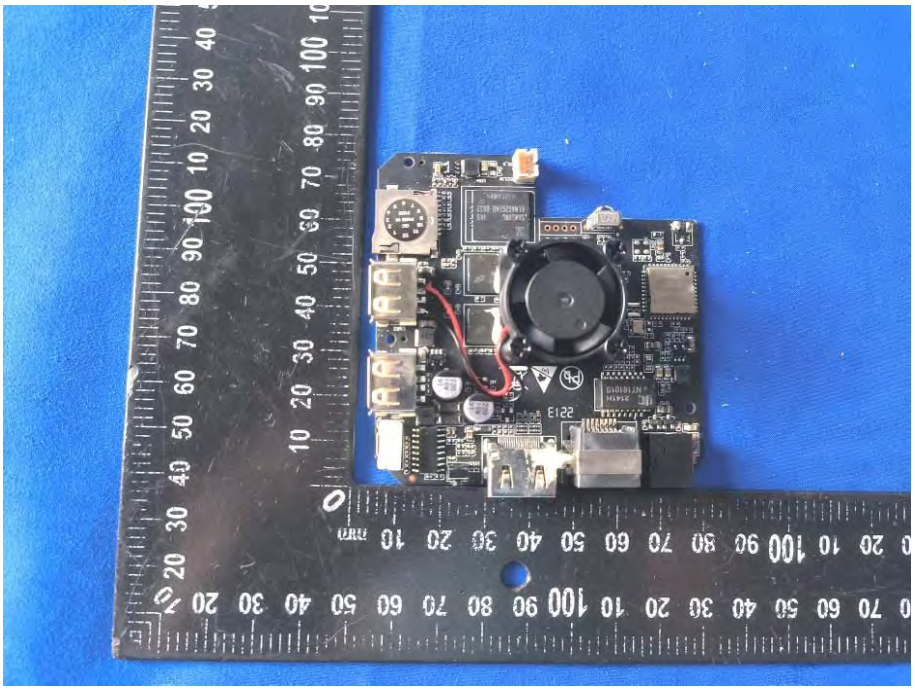

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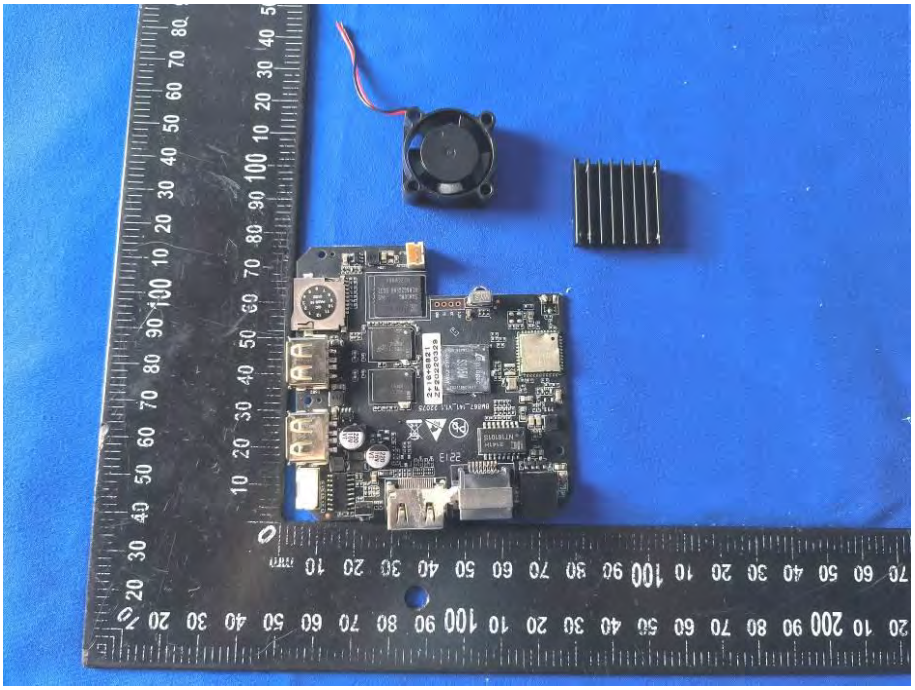

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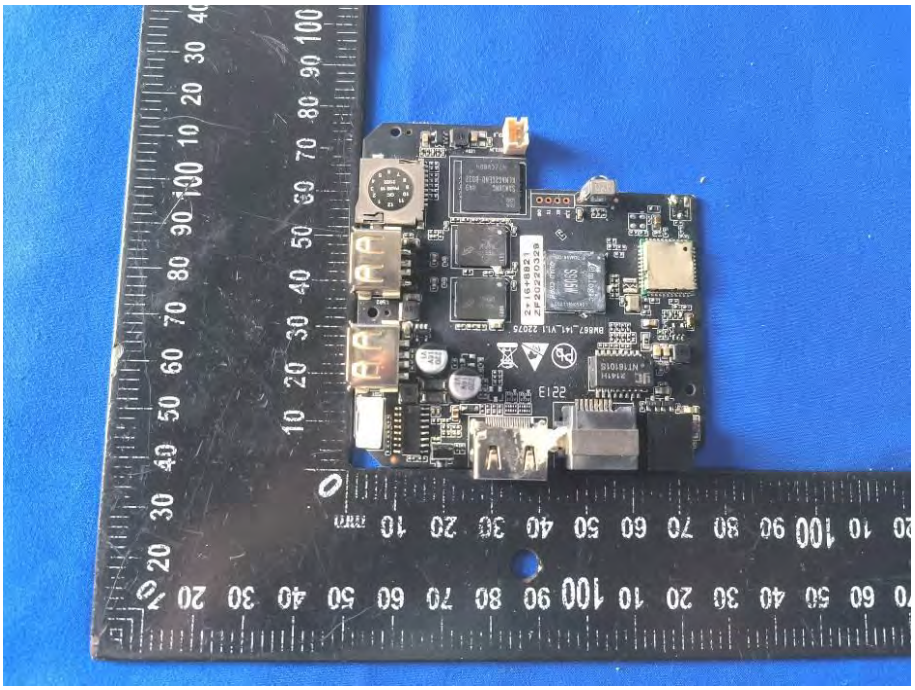
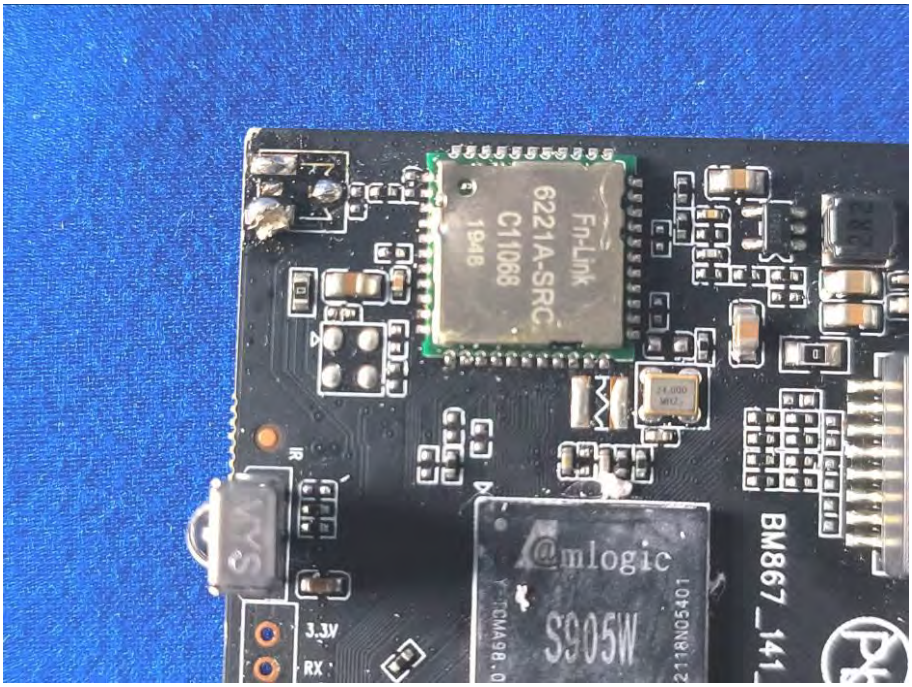


EUT View

EUT View



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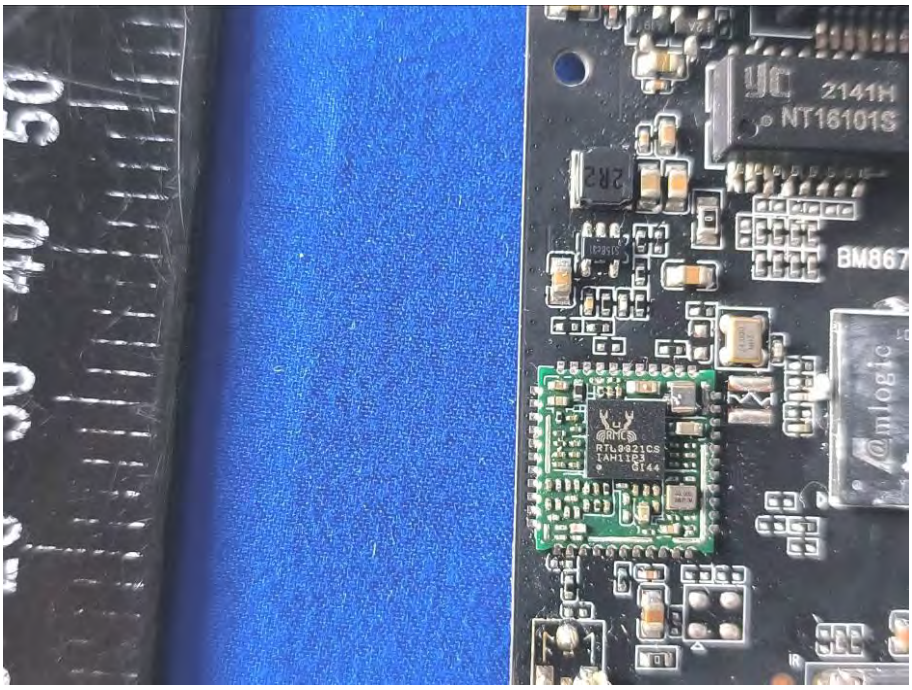

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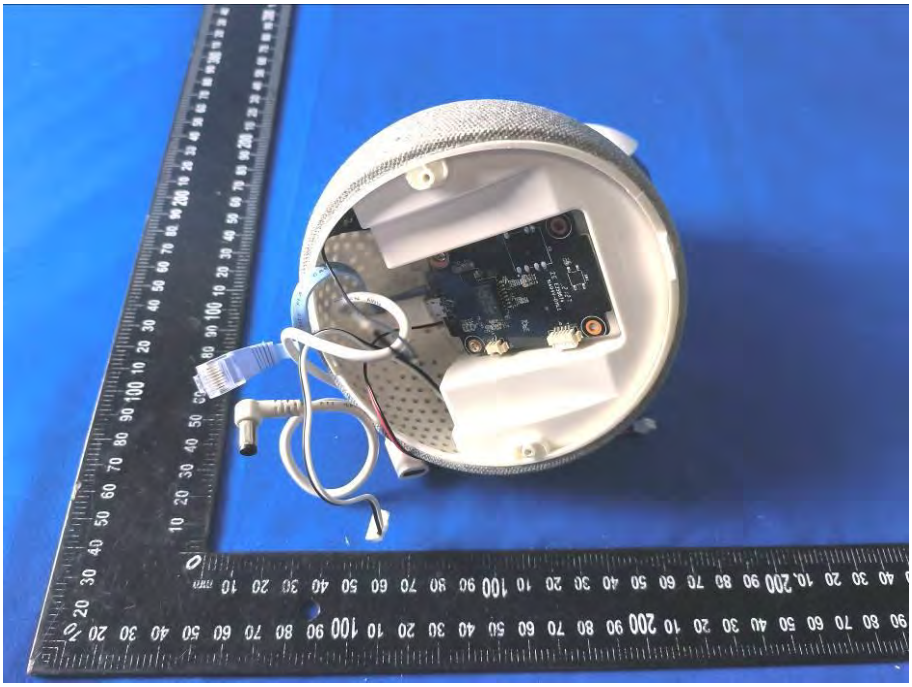

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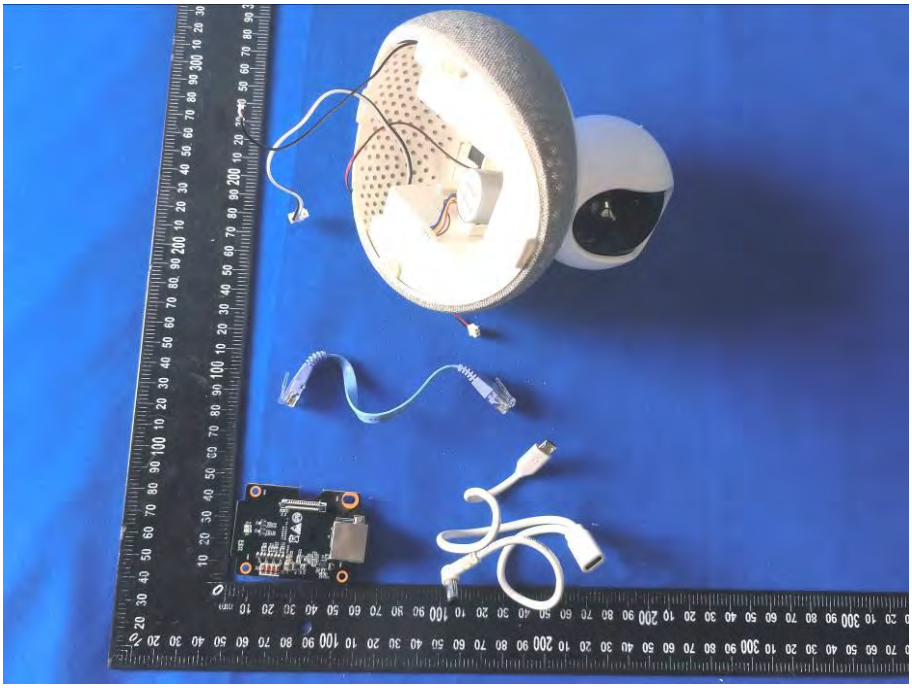

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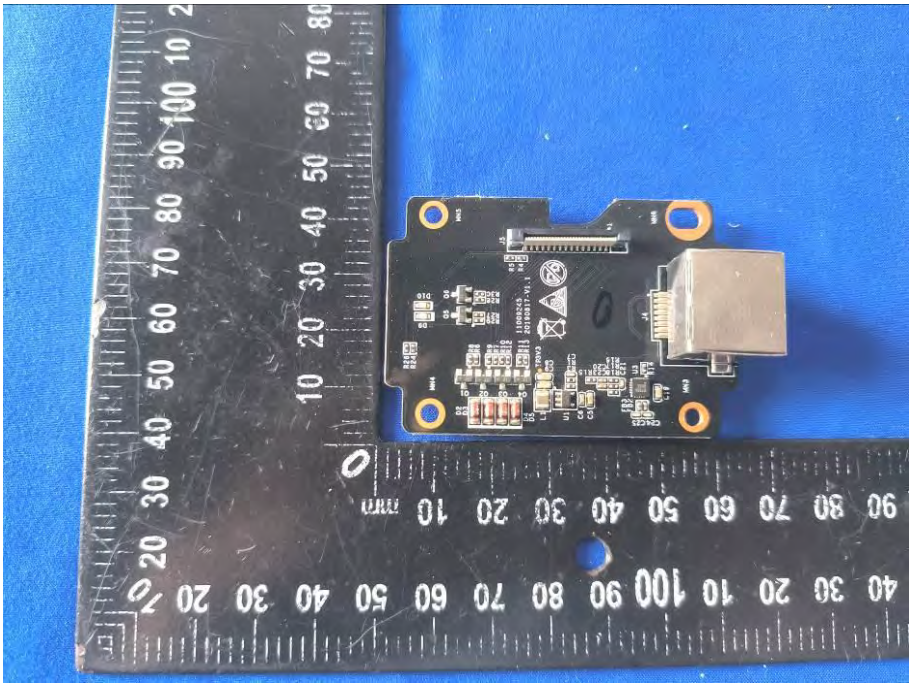

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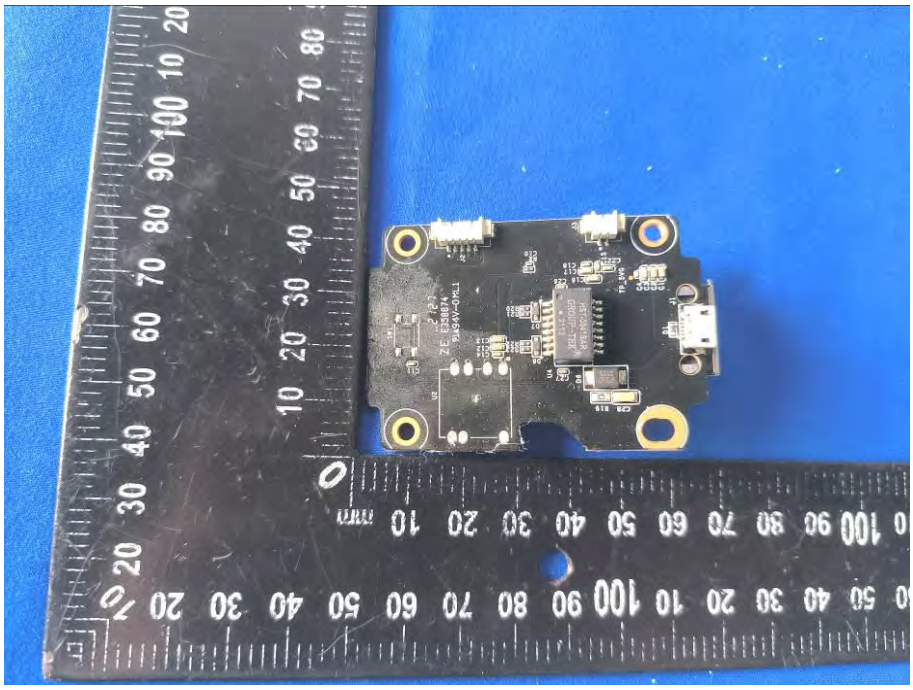

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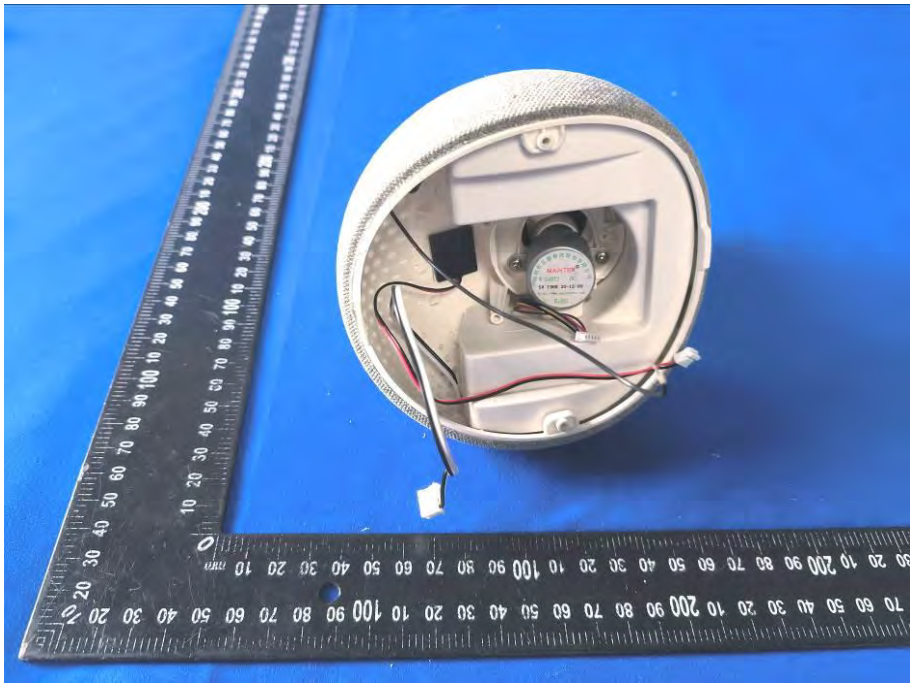

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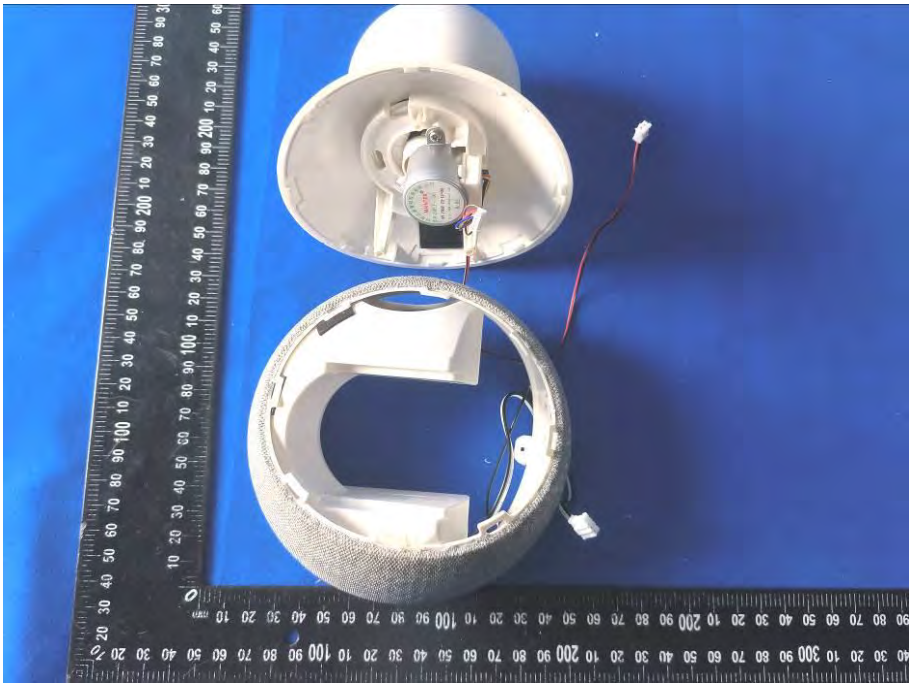

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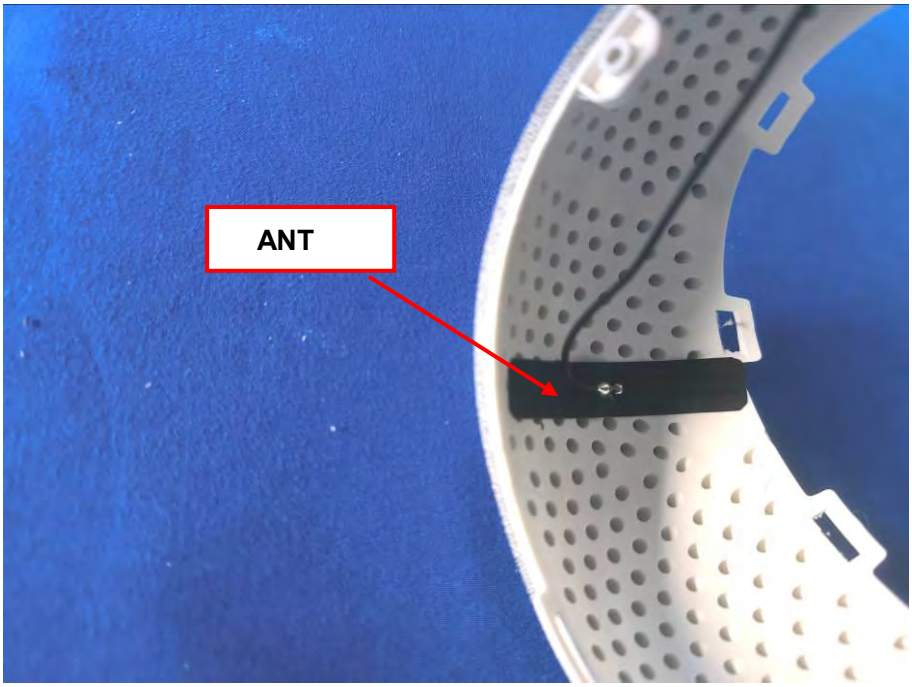
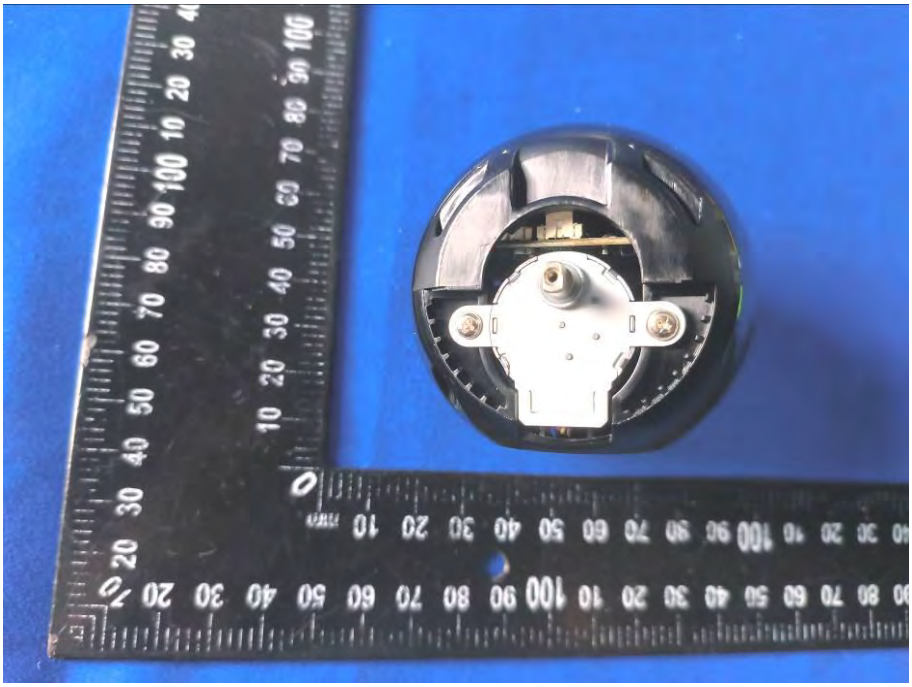


EUT View

EUT View



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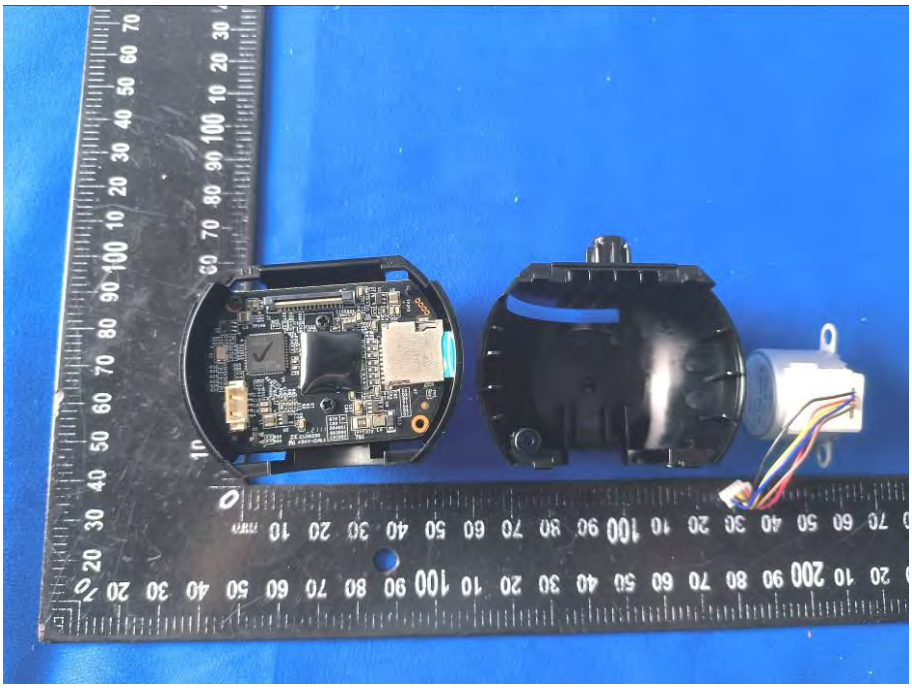

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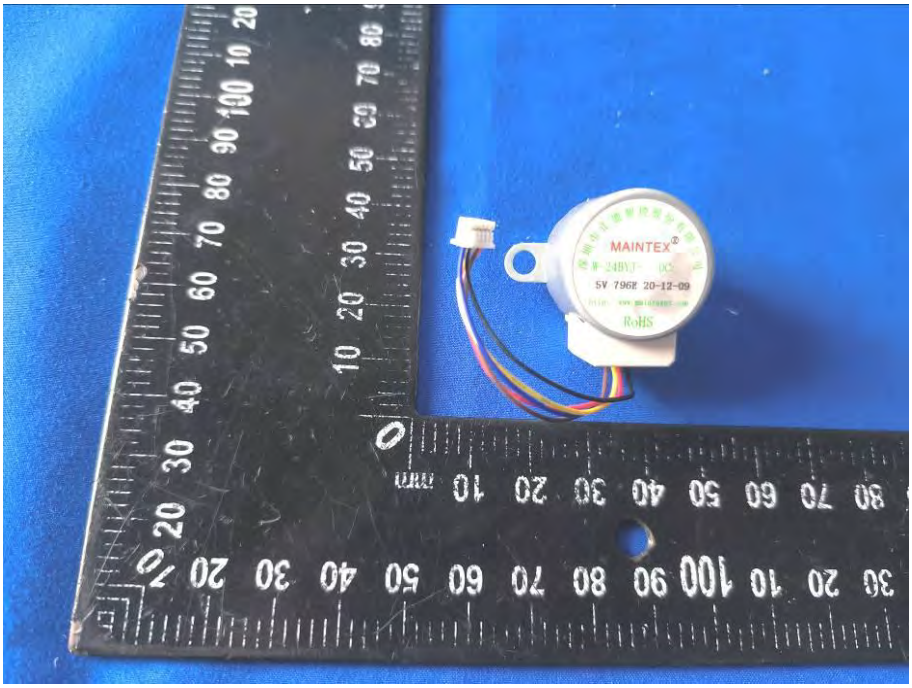

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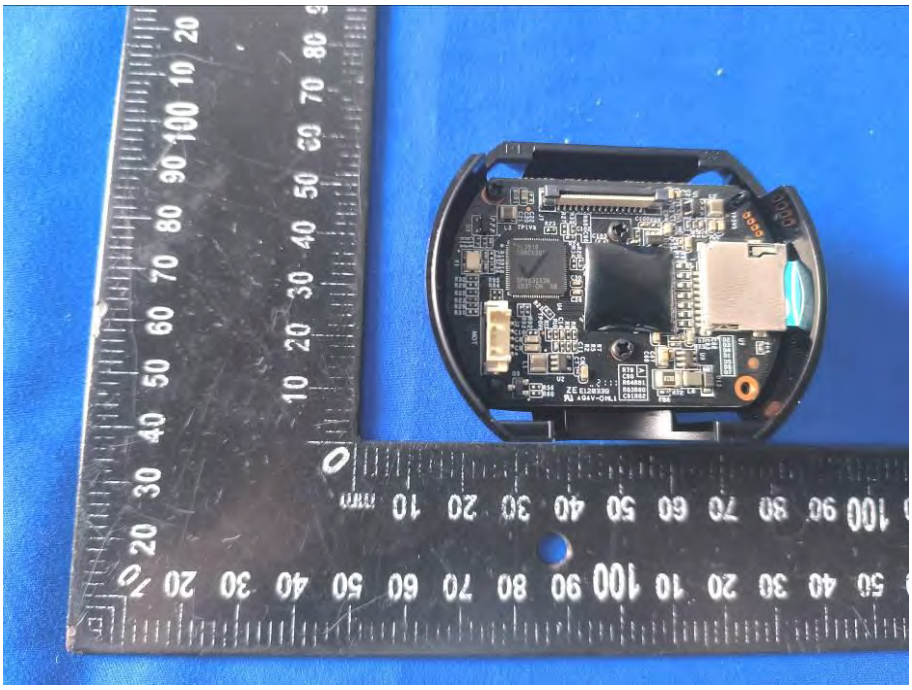

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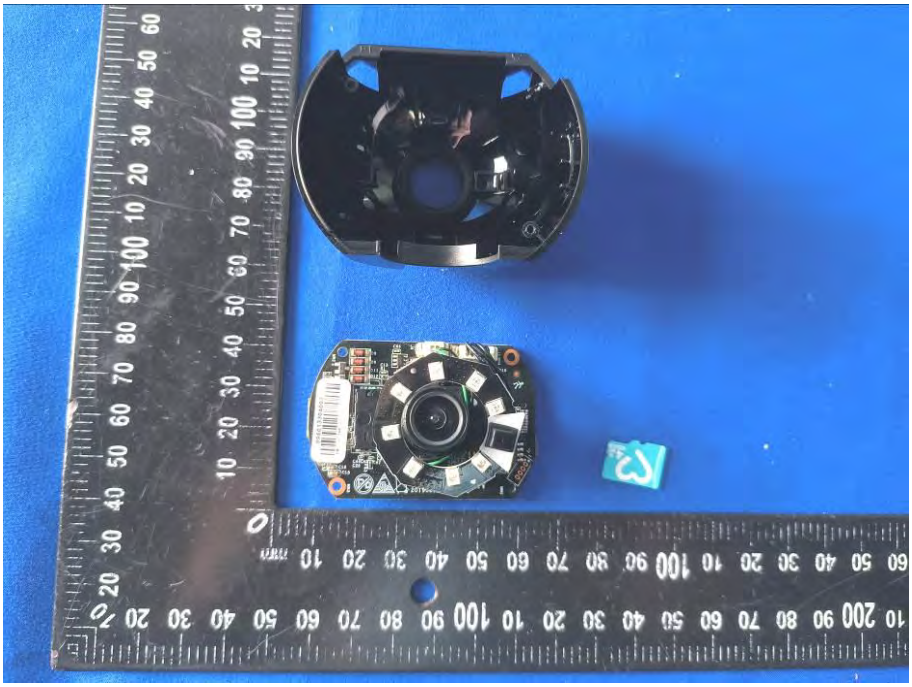

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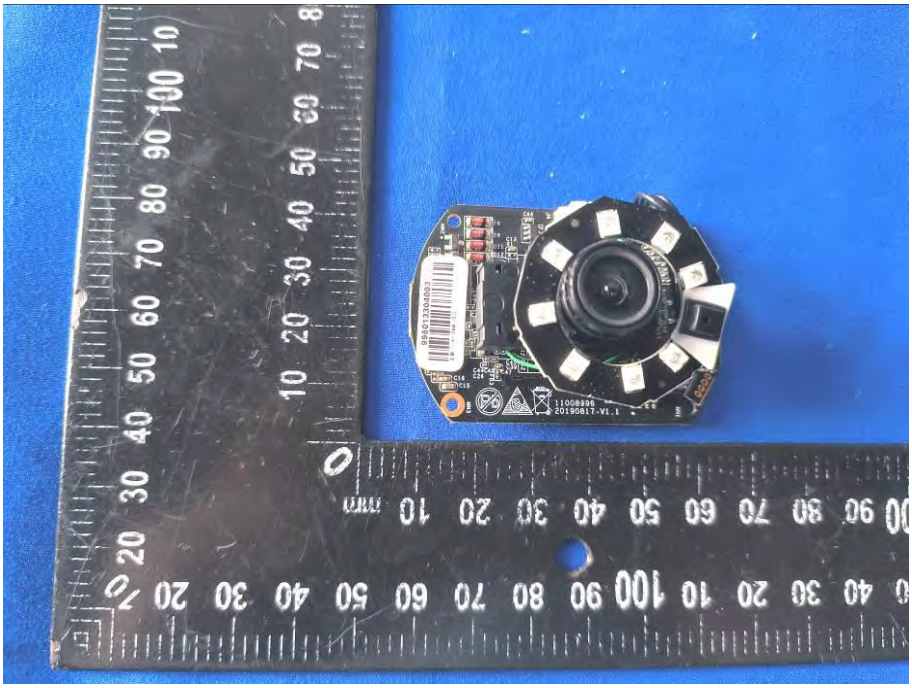
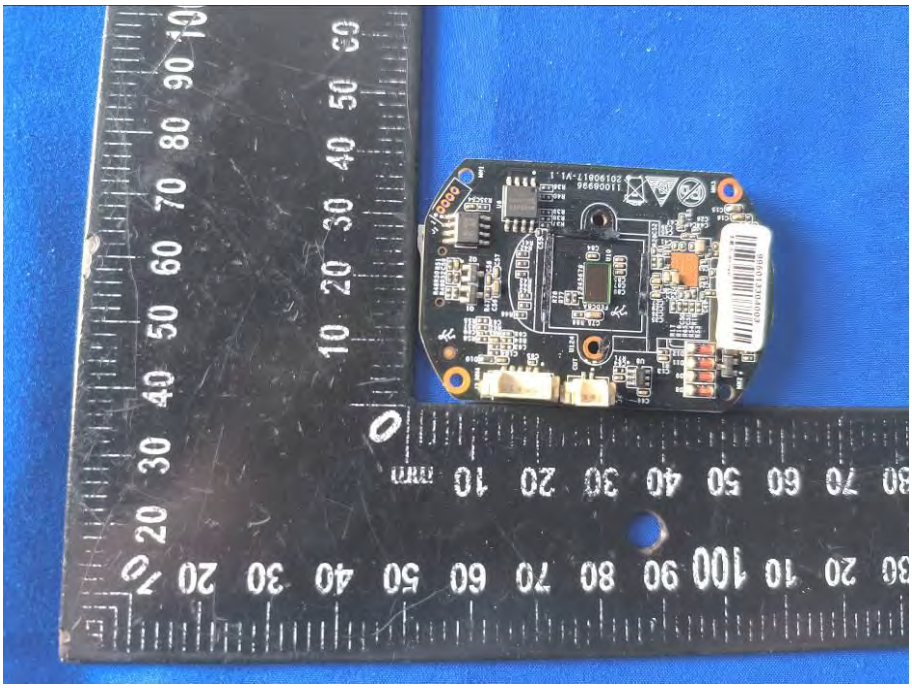


EUT View

EUT View



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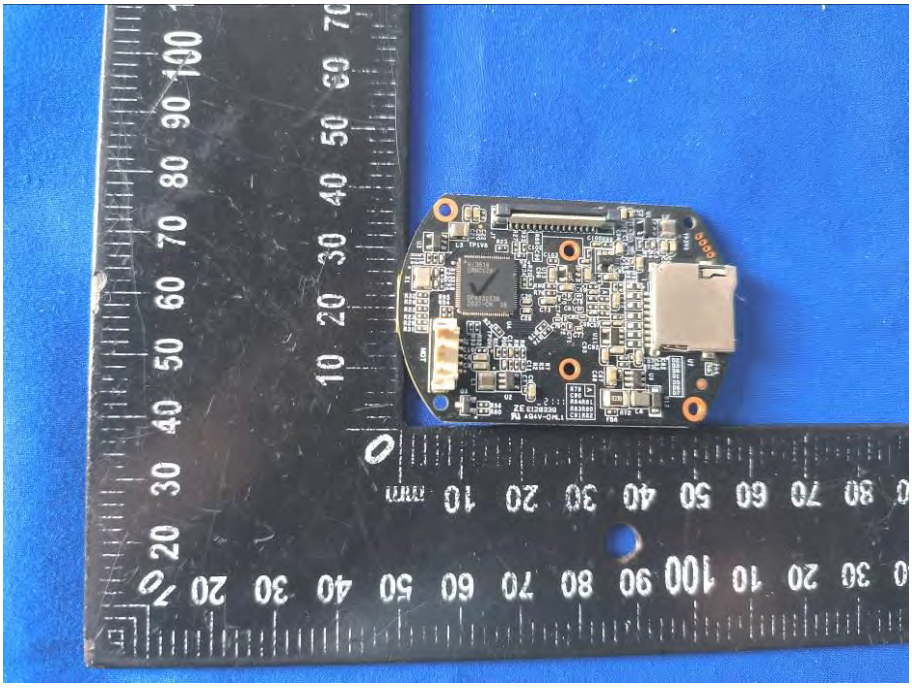

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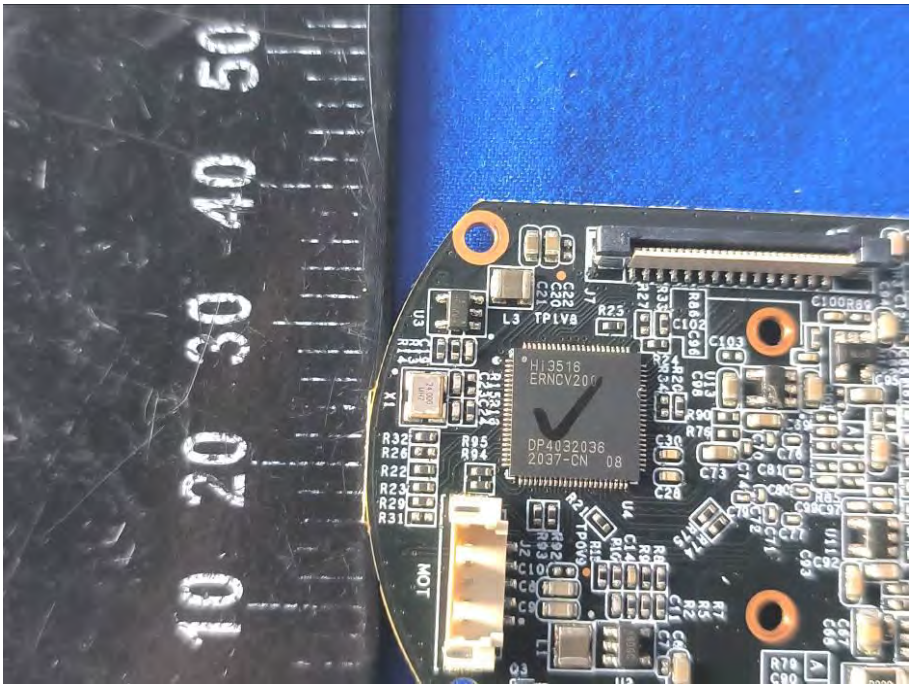

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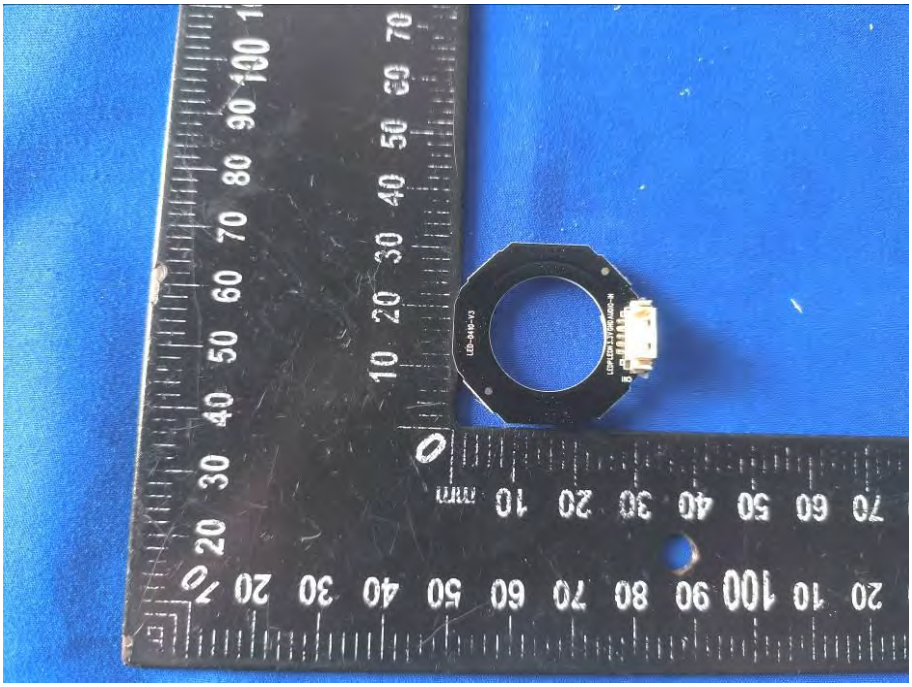
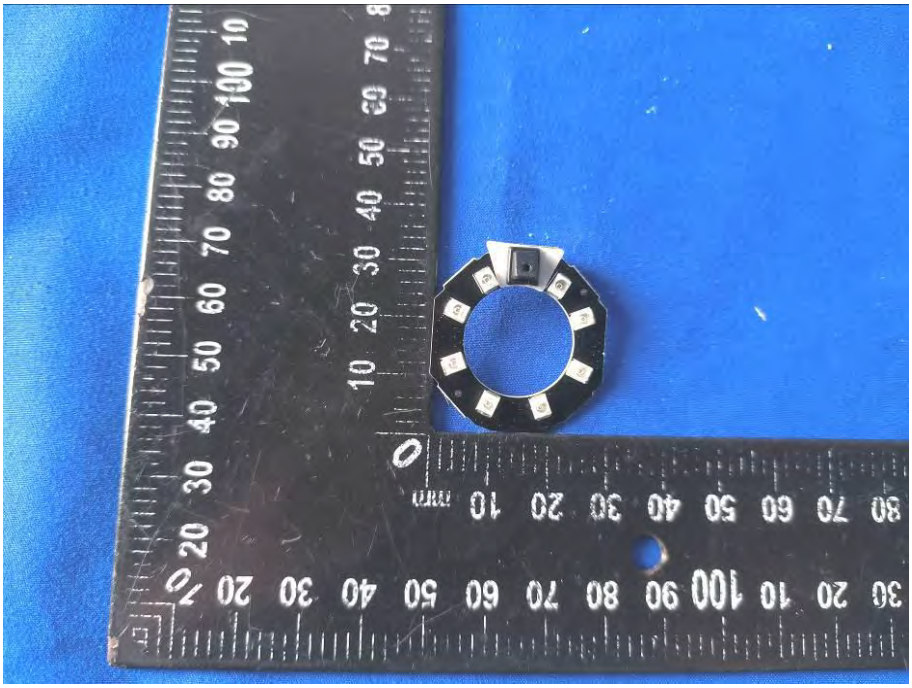


EUT View



EUT View

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