

TEST REPORT

Product Name : Low power video doorbell
Brand Mark : NA
Model No. : Bell 1
Bell 2, Bell 3, Bell 4, Bell 5, Bell J1, Bell J2, Bell J3, Bell J4, Bell J5, V10, V20, V30, V50, V55, V60, V65, V70,
Extension Model : M1, M1Pro, M2, M3, M3Pro, M3s, M4, M5, M6, M6Pro, M7, M8, M9, M9Pro, M10, M10s, M10Pro, M11, M12, M12Pro, M13, M7Plus, X1, X2, X3, X4, X5, X6, X7, X8, X9, X11, X12, X13, X14, X15
FCC ID : 2AYIT-BELL1
Report Number : BLA-EMC-202106-A6701
Date of Sample Receipt : 2021/6/23
Date of Test : 2021/6/23 to 2021/7/16
Date of Issue : 2021/7/16
Test Standard : 47 CFR Part 15, Subpart C 15.231
Test Result : Pass

Prepared for:

Topvision (Shenzhen) Technology Co.,LTD

Room 601, No.213, Niucheng Road, Niucheng Village, Xili Street, Nanshan district, Shenzhen City, China

Prepared by:

BlueAsia of Technical Services(Shenzhen) Co.,Ltd.

Building C, No. 107, Shihuan Road, Shiyuan Sub-District, Baoan District, Shenzhen, Guangdong Province, China

TEL: +86-755-23059481



Compiled by: *Sven*Review by: *Sveels*Approved by: *Jamen Li*

Date: 2021/7/16

**REPORT REVISE RECORD**

Version No.	Date	Description
00	2021/7/16	Original

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1 TEST SUMMARY

Test item	Test Requirement	Test Method	Class/Severity	Result
Radiated Emissions	47 CFR Part 15, Subpart C 15.231	ANSI C63.10 (2013) Section 6.4&6.5&6.6	47 CFR Part 15, Subpart C 15.231(b)	Pass
Field Strength of the Fundamental Signal (15.231(b))	47 CFR Part 15, Subpart C 15.231	ANSI C63.10 (2013) Section 6.5	47 CFR Part 15, Subpart C 15.231(b)	Pass
Dwell Time (15.231(a))	47 CFR Part 15, Subpart C 15.231	ANSI C63.10 (2013) Section 7.8.4	47 CFR Part 15, Subpart C 15.231(a)	Pass
20dB Bandwidth	47 CFR Part 15, Subpart C 15.231	ANSI C63.10 (2013) Section 6.9	47 CFR Part 15, Subpart C 15.231(c)	Pass
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.231	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
Antenna Requirement	47 CFR Part 15, Subpart C 15.231	N/A	47 CFR Part 15, Subpart C 15.203	Pass

2 GENERAL INFORMATION

Applicant	Topvision (Shenzhen) Technology Co.,LTD
Address	Room 601, No.213,Niucheng Road,Niucheng Village,Xili Street,Nanshan district,Shenzhen City,China
Manufacturer	Topvision (Shenzhen) Technology Co.,LTD
Address	Room 601, No.213,Niucheng Road,Niucheng Village,Xili Street,Nanshan district,Shenzhen City,China
Factory	Topvision (Shenzhen) Technology Co.,LTD
Address	Room 601, No.213,Niucheng Road,Niucheng Village,Xili Street,Nanshan district,Shenzhen City,China
Product Name	Low power video doorbell
Test Model No.	Bell 1

3 GENERAL DESCRIPTION OF E.U.T.

Hardware Version	NA
Software Version	NA
Operation Frequency:	433.92MHz
Channel numbers:	1
Modulation type:	ASK
Antenna Type:	Internal antenna
Antenna gain:	1.92dBi(Provided by customer)
Power supply:	DC 3.7V Li-ion 9600mAh

4 TEST ENVIRONMENT

Environment	Temperature	Voltage
Normal	25°C	DC3.7V

5 TEST MODE

TEST MODE	TEST MODE DESCRIPTION
Transmitting mode	Keep the EUT in continuously transmitting mode with modulation.
Remark: Full battery is used during all test except ac conducted emission.	

6 MEASUREMENT UNCERTAINTY

Parameter	Expanded Uncertainty (Confidence of 95%)
Radiated Emission(9kHz-30MHz)	±4.34dB
Radiated Emission(30Mz-1000MHz)	±4.24dB
Radiated Emission(1GHz-18GHz)	±4.68dB
AC Power Line Conducted Emission(150kHz-30MHz)	±3.45dB

7 DESCRIPTION OF SUPPORT UNIT

Device Type	Manufacturer	Model Name	Serial No.	Remark
--	--	--	--	--

Note:

"--" means no any support device during testing.

8 LABORATORY LOCATION

All tests were performed at:
BlueAsia of Technical Services(Shenzhen) Co., Ltd.
Building C, No. 107, Shihuan Road, Shiyuan Sub-District, Baoan District, Shenzhen, Guangdong Province,
China
Telephone: TEL: +86-755-28682673 FAX: +86-755-28682673
No tests were sub-contracted.

9 TEST INSTRUMENTS LIST

Test Equipment Of Radiated Emissions					
Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Chamber	SKET	966	N/A	2020/11/10	2023/11/9
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Receiver	R&S	ESR7	101199	2020/10/12	2021/10/11
broadband Antenna	Schwarzbeck	VULB9168	00836 P:00227	2020/9/26	2022/9/25
Horn Antenna	Schwarzbeck	9120D	01892 P:00331	2020/9/26	2022/9/25
Amplifier	SKET	PA-000318G-45	N/A	2020/10/16	2021/10/15
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A
Loop antenna	SCHNARZBECK	FMZB1519B	00102	2020/9/26	2022/9/25
Controller	SKET	N/A	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-02	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-03	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-01	N/A	N/A	N/A

Test Equipment Of Field Strength of the Fundamental Signal (15.231(b))					
Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Chamber	SKET	966	N/A	2020/11/10	2023/11/9
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Receiver	R&S	ESR7	101199	2020/10/12	2021/10/11
broadband Antenna	Schwarzbeck	VULB9168	00836 P:00227	2020/9/26	2022/9/25
Horn Antenna	Schwarzbeck	9120D	01892 P:00331	2020/9/26	2022/9/25

Amplifier	SKET	PA-000318G-45	N/A	2020/10/16	2021/10/15
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A
Loop antenna	SCHNARZBECK	FMZB1519B	00102	2020/9/26	2022/9/25
Controller	SKET	N/A	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-02	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-03	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-01	N/A	N/A	N/A

Test Equipment Of Dwell Time (15.231(a))

Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Spectrum	Agilent	N9020A	MY49100060	2020/10/12	2021/10/11
Signal Generator	Agilent	N5182A	MY49060650	2020/10/12	2021/10/11
Signal Generator	Agilent	E8257D	MY44320250	2020/10/12	2021/10/11

Test Equipment Of 20dB Bandwidth

Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Spectrum	Agilent	N9020A	MY49100060	2020/10/12	2021/10/11
Signal Generator	Agilent	N5182A	MY49060650	2020/10/12	2021/10/11
Signal Generator	Agilent	E8257D	MY44320250	2020/10/12	2021/10/11

Test Equipment Of Conducted Emissions at AC Power Line (150kHz-30MHz)

Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Shield room	SKET	833	N/A	2020/11/25	2023/11/24
Receiver	R&S	ESPI3	101082	2020/10/12	2021/10/11

LISN	R&S	ENV216	3560.6550.15	2020/10/12	2021/10/11
LISN	AT	AT166-2	AKK1806000003	2020/10/12	2021/10/11
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A

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10 RADIATED EMISSIONS

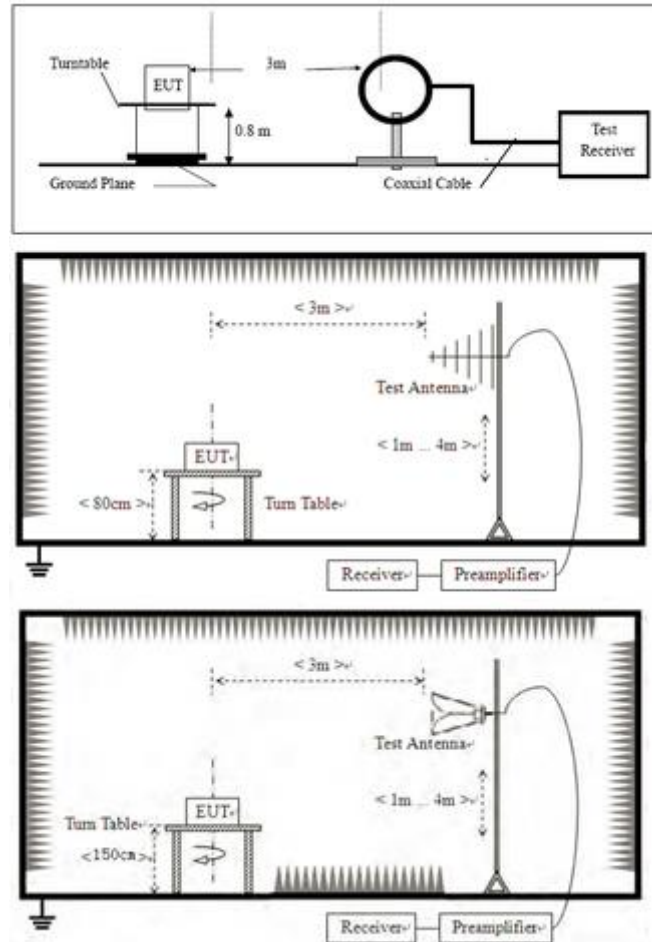
Test Standard	47 CFR Part 15, Subpart C 15.231
Test Method	ANSI C63.10 (2013) Section 6.4&6.5&6.6
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Sven
Temperature	25°C
Humidity	52%

10.1 LIMITS

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

10.2 BLOCK DIAGRAM OF TEST SETUP



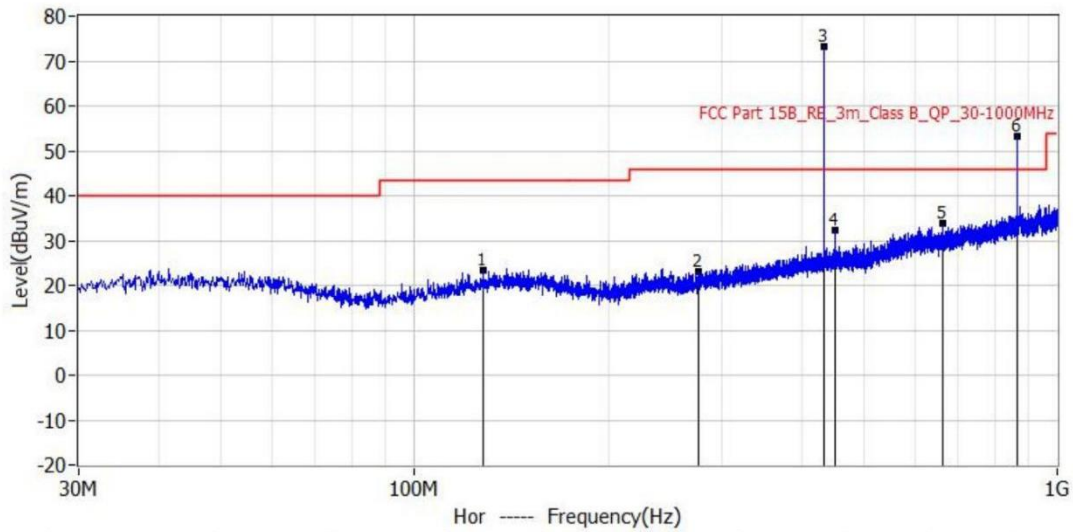
10.3 PROCEDURE

For testing performed with the loop antenna, the center of the loop was positioned 1 m above the ground and positioned with its plane vertical at the specified distance from the EUT. During testing the loop was rotated about its vertical axis for maximum response at each azimuth and also investigated with the loop positioned in the horizontal plane. Only the worst position of vertical was shown in the report.

10.4 TEST DATA

[Test mode:TX mode][Polarity: Horizontal]

Test Lab: BlueAsia EMC Lab (RE #1)	Project: BLA-EMC-202106-A67
EUT: Low power video doorbell	Test Engineer:
M/N: Bell 1	Temperature: 25℃
S/N:	Humidity:
Test Mode: TX mode	Test Voltage:
Note:	Test Data: 2021-07-16 18:35:55

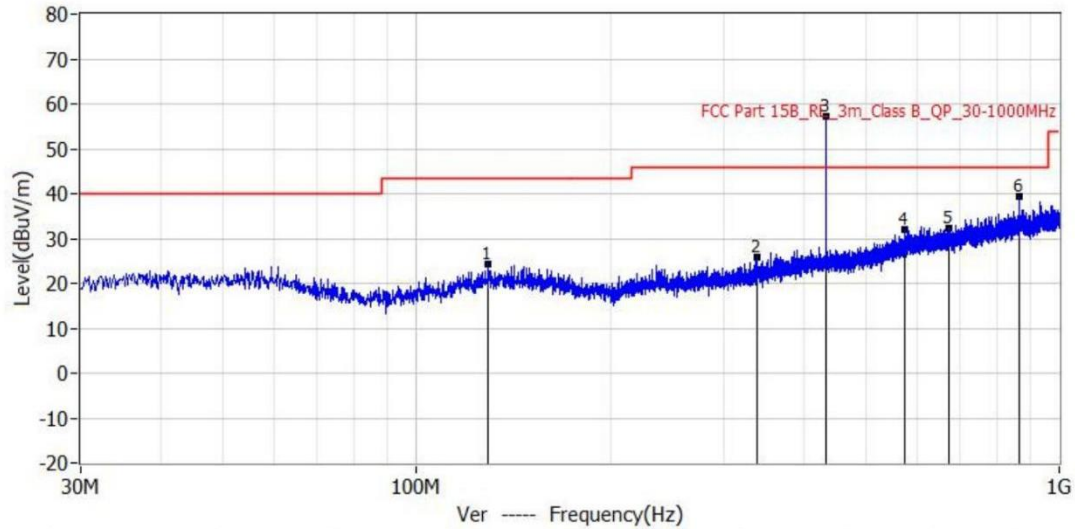


No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1*	127.606MHz	43.5	23.5	-20.0	0.4	23.1	QP	Hor		
2*	276.016MHz	46.0	23.0	-23.0	-0.4	23.4	QP	Hor		
!3*	433.884MHz	46.0	73.1	27.1	45.4	27.7	QP	Hor		
4*	450.131MHz	46.0	32.2	-13.8	4.3	27.9	QP	Hor		
5*	663.774MHz	46.0	33.7	-12.3	2.0	31.7	QP	Hor		
!6*	867.838MHz	46.0	53.3	7.3	18.6	34.7	QP	Hor		

Test Result: Pass

[Test mode:TX mode][Polarity: Vertical]

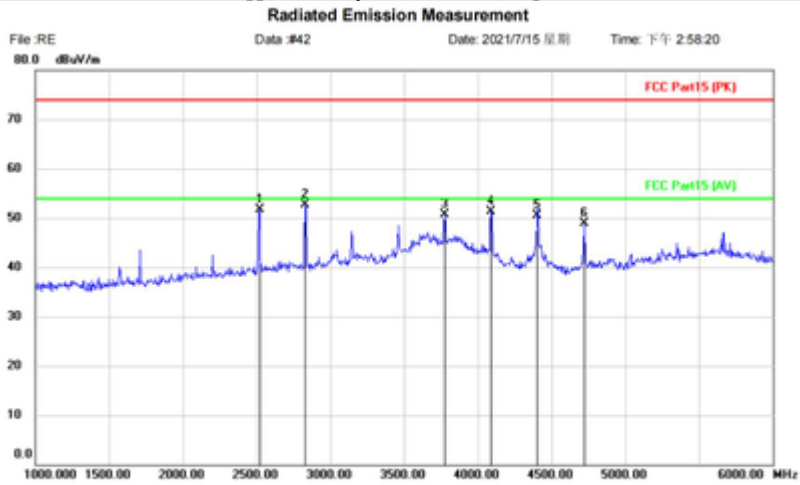
Test Lab: BlueAsia EMC Lab (RE #1)	Project: BLA-EMC-202106-A67
EUT: Low power video doorbell	Test Engineer:
M/N: Bell 1	Temperature: 25°C
S/N:	Humidity:
Test Mode: TX mode	Test Voltage:
Note:	Test Data: 2021-07-16 18:37:54



No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1*	129.061MHz	43.5	24.2	-19.3	1.0	23.2	QP	Ver		
2*	337.854MHz	46.0	25.7	-20.3	0.4	25.3	QP	Ver		
3*	433.884MHz	46.0	57.1	11.1	29.4	27.7	QP	Ver		
4*	574.655MHz	46.0	31.9	-14.1	1.4	30.5	QP	Ver		
5*	673.838MHz	46.0	32.2	-13.8	0.4	31.8	QP	Ver		
6*	867.838MHz	46.0	39.5	-6.5	4.8	34.7	QP	Ver		

Test Result: Pass

[Test mode:TX mode][Polarity: Horizontal]



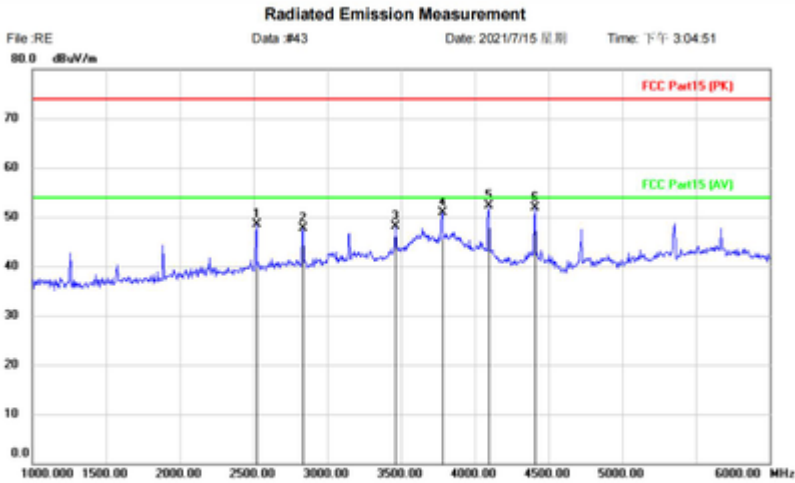
Site: Polarization: **Horizontal** Temperature:
 Limit: FCC Part15 (PK) Power: Humidity: %
 EUT: Low power video doorbell Distance: 3m
 M/N: Bell 1
 Mode: TX mode
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		Mhz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		2520.000	66.23	-14.62	51.61	74.00	-22.39	peak		
2	*	2830.000	65.89	-13.15	52.74	74.00	-21.26	peak		
3		3775.000	57.81	-7.15	50.66	74.00	-23.34	peak		
4		4090.000	60.84	-9.52	51.32	74.00	-22.68	peak		
5		4405.000	60.18	-9.71	50.47	74.00	-23.53	peak		
6		4725.000	59.95	-11.02	48.93	74.00	-25.07	peak		

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

Test Result: Pass

[Test mode:TX mode][Polarity: Vertical]



File: RE
80.0 dBuV/m
Data: #43
Date: 2021/7/15 星期
Time: 下午 3:04:51

Site: Polarization: **Vertical** Temperature:
Limit: FCC Part15 (PK) Power: Humidity: %
EUT: Low power video doorbell Distance: 3m
M/N: Bell 1
Mode: TX mode
Note:

No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree	Comment
1	2520.000	63.21	-14.62	48.59	74.00	-25.41	peak			
2	2835.000	60.91	-13.13	47.78	74.00	-26.22	peak			
3	3465.000	58.67	-10.51	48.16	74.00	-25.84	peak			
4	3780.000	57.99	-7.16	50.83	74.00	-23.17	peak			
5 *	4095.000	61.88	-9.54	52.34	74.00	-21.66	peak			
6	4410.000	61.69	-9.78	51.91	74.00	-22.09	peak			

*:Maximum data x:Over limit !:over margin

(Reference Only)

Test Result: Pass

11 FIELD STRENGTH OF THE FUNDAMENTAL SIGNAL (15.231(B))

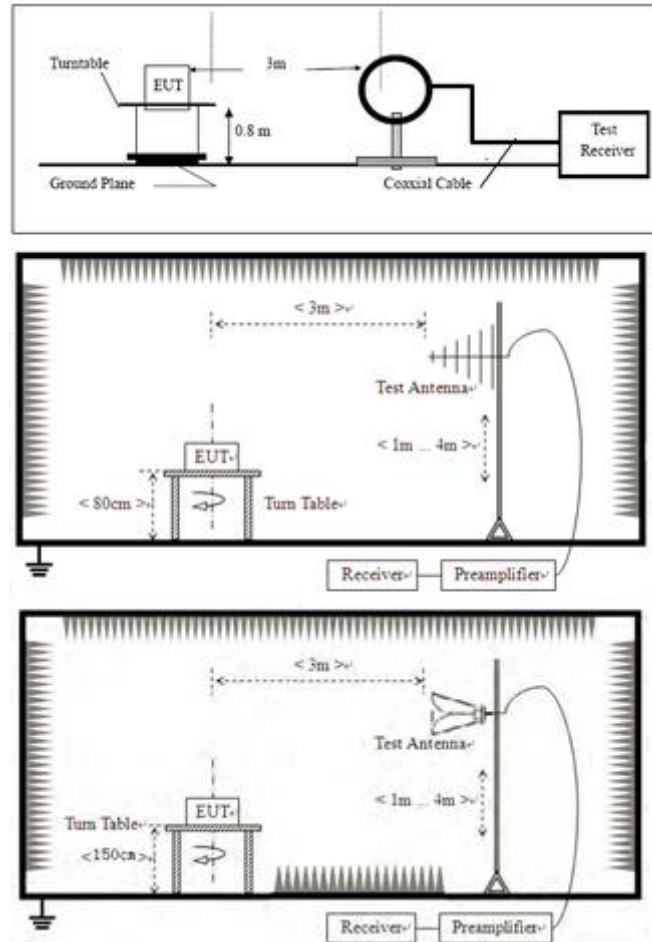
Test Standard	47 CFR Part 15, Subpart C 15.231
Test Method	ANSI C63.10 (2013) Section 6.5
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Sven
Temperature	25°C
Humidity	52%

11.1 LIMITS

Fundamental frequency(MHz)	Field strength of fundamental(microvolts/meter)	Field strength of spurious emissions(microvolts/meter)
40.66-40.70	2250	225
70-130	1250	125
130-174	1250 to 3750	125 to 375
174-260	3750	375
260-470	3750 to 12500	375 to 1250
Above 470	12500	1250

Remark: the emission limit is based on measurement instrumentation employing an average detector at a distance of 3 meters. The frequencies above 1000MHz are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

11.2 BLOCK DIAGRAM OF TEST SETUP



11.3 PROCEDURE

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. The radiation measurements are performed in X, Y, Z axis positioning. And found the X axis positioning which it is worse case, only the test worst case mode is recorded in the report.
Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

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11.4 TEST DATA

(Below 1G)

Peak value						
Frequency (MHz)	Read Level (dBuV)	Correct Facor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
433.92	45.4	27.7	73.1	100.80	-27.7	Horizontal
433.92	29.4	27.63	57.1	100.80	-43.1	Vertical
867.34	18.6	34.7	53.3	80.80	-27.5	Horizontal
867.34	4.8	34.7	39.5	80.80	-41.3	Vertical
Average value						
Frequency (MHz)	Peak value	Duty cycle factor	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
433.92	73.1	0	73.1	80.80	-7.70	Horizontal
433.92	57.1	0	57.1	80.80	-23.7	Vertical
867.34	53.3	0	53.3	60.80	-7.50	Horizontal
867.34	39.5	0	39.5	60.80	-21.30	Vertical
Calculate Formula:	Average value = Peak value + Duty Cycle Factor					
	Duty cycle factor = 20log(Duty cycle)					
	T period =314(ms), It is over 100ms, so the duty cycle is 100%					
	Duty cycle =100%					
	Duty cycle factor = 20log(Duty cycle) = 0					

Remark:

1. Final Level =Receiver Read level +Correct factor
2. Correct factor = Antenna Factor + Cable Loss – Preamplifier Factor
3. Average value = Peak value + Duty Cycle Factor

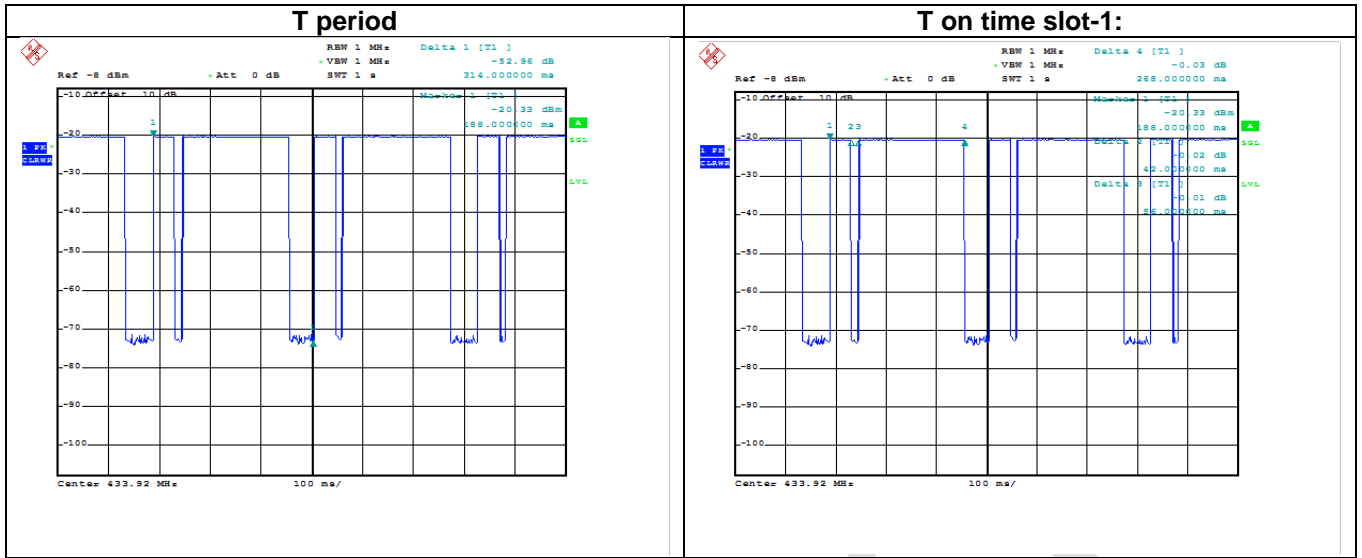
(Above 1G)

Horizontal							
No.	Frequency (MHz)	Peak Result (dBuV/m)	Duty cycle factor	Average Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Result
1	2520.000	51.61	0	51.61	60.8	-9.19	Pass
2	2830.000	52.74	0	52.74	60.8	-8.06	Pass
3	4090.000	51.32	0	51.32	60.8	-9.48	Pass

Vertical							
No.	Frequency (MHz)	Peak Result (dBuV/m)	Duty cycle factor	Average Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Result
1	3780.000	50.83	0	50.83	60.8	-9.97	Pass
2	4095.000	52.34	0	52.34	60.8	-8.46	Pass
3	4410.000	51.91	0	51.91	60.8	-8.89	Pass

Remark:

1. Final Level = Receiver Read level + Correct factor
2. Correct factor = Antenna Factor + Cable Loss – Preamplifier Factor
3. Average value = Peak value + Duty Cycle Factor



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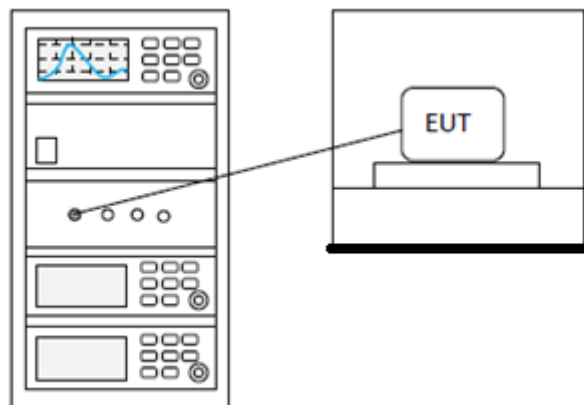
12 DWELL TIME (15.231(A))

Test Standard	47 CFR Part 15, Subpart C 15.231
Test Method	ANSI C63.10 (2013) Section 7.8.4
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Sven
Temperature	25°C
Humidity	52%

12.1 LIMITS

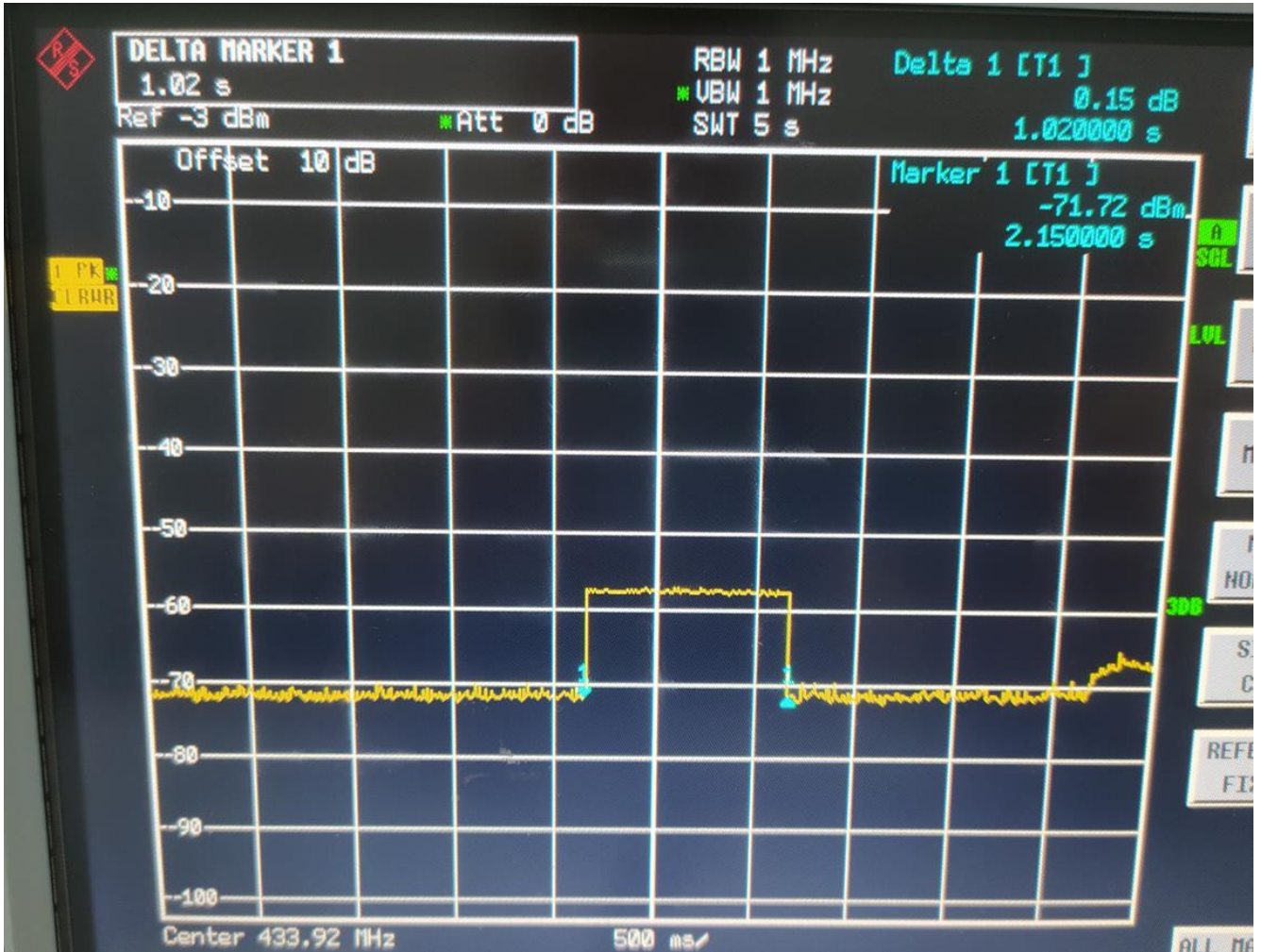
Device type	Limit
Manually operated transmitter	The switch automatically deactivate the transmitter within not more than 5 seconds of being released
Automatically actived transmitter	Cease transmission within 5 seconds after activation
Periodic transmissions to determine system integrity of transmitters used in security or safety applications	The total transmission time does not exceed 2 seconds per hour

12.2 BLOCK DIAGRAM OF TEST SETUP



12.3 TEST DATA

Duration time (second)	Limit (second)	Result
1.02	<5.0	Pass



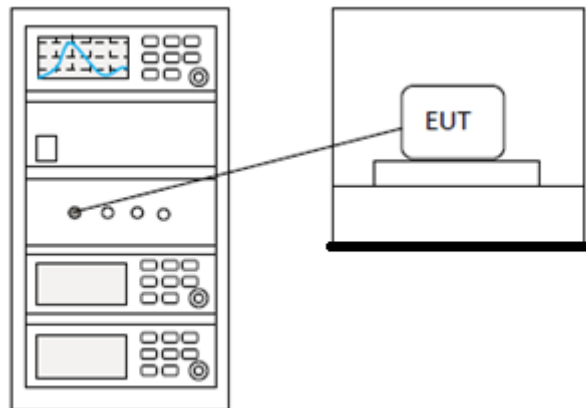
13 20DB BANDWIDTH

Test Standard	47 CFR Part 15, Subpart C 15.231
Test Method	ANSI C63.10 (2013) Section 6.9
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Sven
Temperature	25°C
Humidity	52%

13.1 LIMITS

Frequency range(MHz)	Limit
70-900	No wider than 0.25% of the center frequency
Above 900	No wider than 0.5% of the center frequency

13.2 BLOCK DIAGRAM OF TEST SETUP



14 CONDUCTED EMISSIONS AT AC POWER LINE (150KHZ-30MHZ)

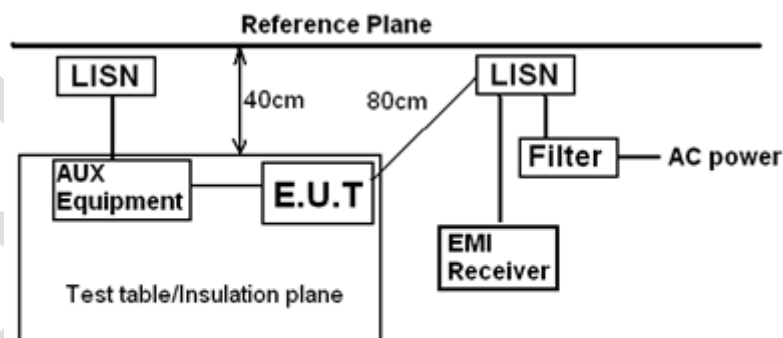
Test Standard	47 CFR Part 15, Subpart C 15.231
Test Method	ANSI C63.10 (2013) Section 6.2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Sven
Temperature	25°C
Humidity	52%

14.1 LIMITS

Frequency of emission(MHz)	Conducted limit(dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

14.2 BLOCK DIAGRAM OF TEST SETUP



Remark
 E.U.T: Equipment Under Test
 LISN: Line Impedance Stabilization Network
 Test table height=0.8m

14.3 PROCEDURE

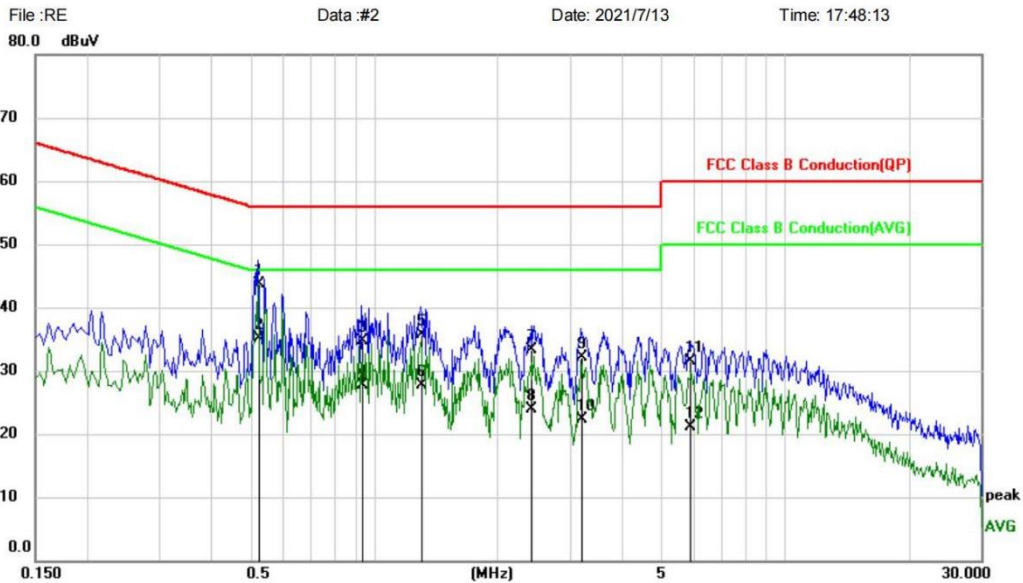
- 1) The mains terminal disturbance voltage test was conducted in a shielded room.
- 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50H + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.

- 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
 - 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
 - 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.
- Remark: LISN=Read Level+ Cable Loss+ LISN Factor

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[Test mode:TX mode][Line: Neutral][Power:AC120V/60Hz]

Conducted Emission Measurement



Site: _____ Phase: **N** Temperature: _____
 Limit: FCC Class B Conduction(QP) Power: _____ Humidity: %
 EUT: Low power video doorbell
 M/N: Bell 1
 Mode: working mode
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.5220	33.83	9.79	43.62	56.00	-12.38	QP	
2	*	0.5220	25.36	9.79	35.15	46.00	-10.85	AVG	
3		0.9340	24.94	9.83	34.77	56.00	-21.23	QP	
4		0.9340	17.79	9.83	27.62	46.00	-18.38	AVG	
5		1.2980	25.85	9.85	35.70	56.00	-20.30	QP	
6		1.2980	17.78	9.85	27.63	46.00	-18.37	AVG	
7		2.4180	23.42	9.87	33.29	56.00	-22.71	QP	
8		2.4180	14.09	9.87	23.96	46.00	-22.04	AVG	
9		3.1940	22.23	9.91	32.14	56.00	-23.86	QP	
10		3.1940	12.36	9.91	22.27	46.00	-23.73	AVG	
11		5.8980	21.44	9.98	31.42	60.00	-28.58	QP	
12		5.8980	11.07	9.98	21.05	50.00	-28.95	AVG	

*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

15 ANTENNA REQUIREMENT

Test Standard	47 CFR Part 15, Subpart C 15.231
Test Method	N/A

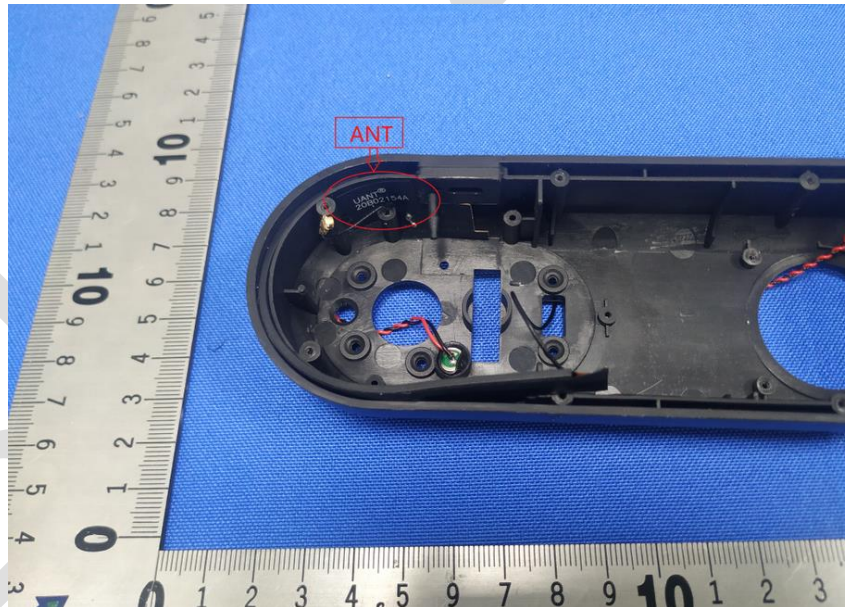
15.1 CONCLUSION

Standard Requirement:

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. The use of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

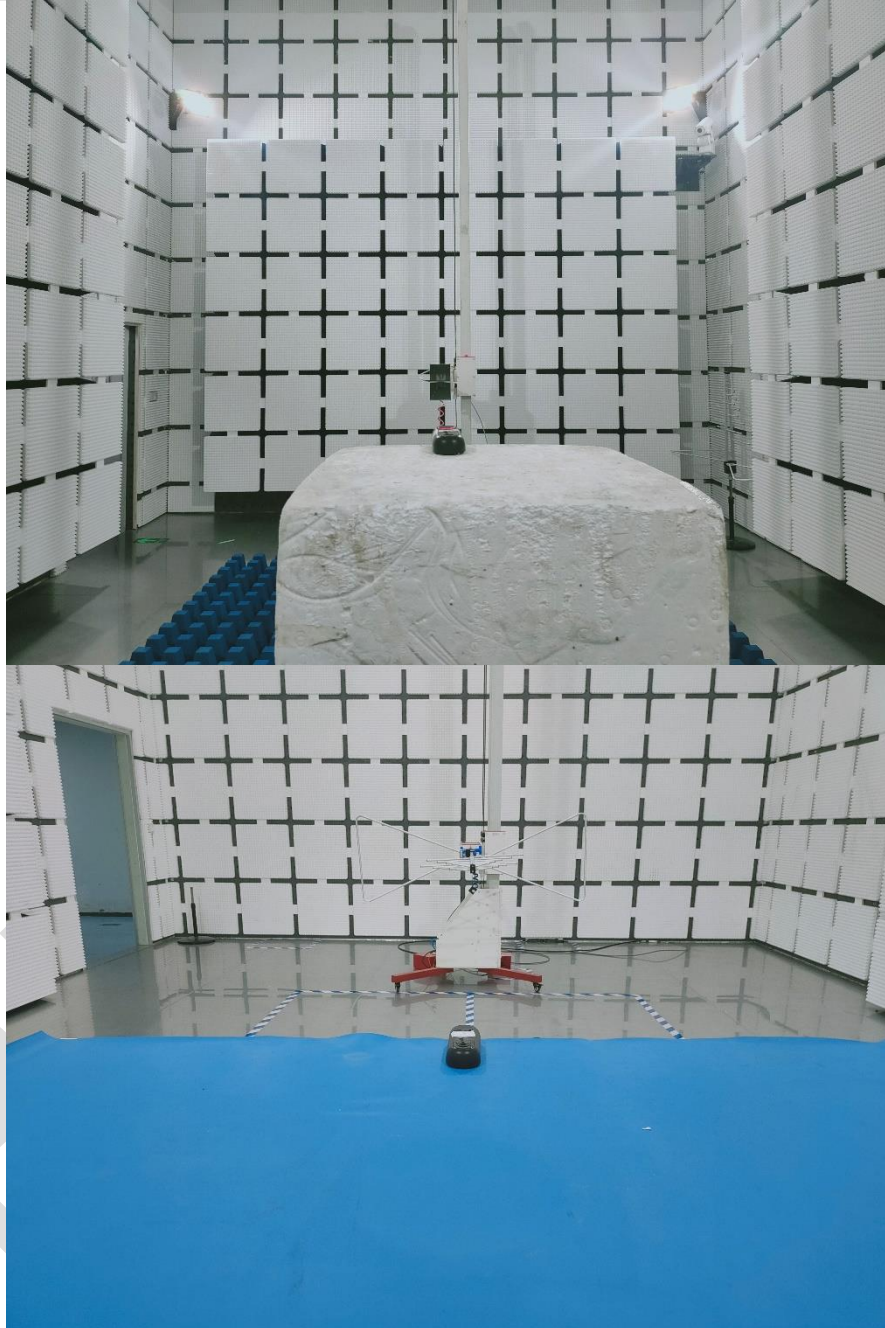
EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 1.92dBi.



APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Radiated Emissions



Conducted Emissions at AC Power Line (150kHz-30MHz)



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APPENDIX B: PHOTOGRAPHS OF EUT







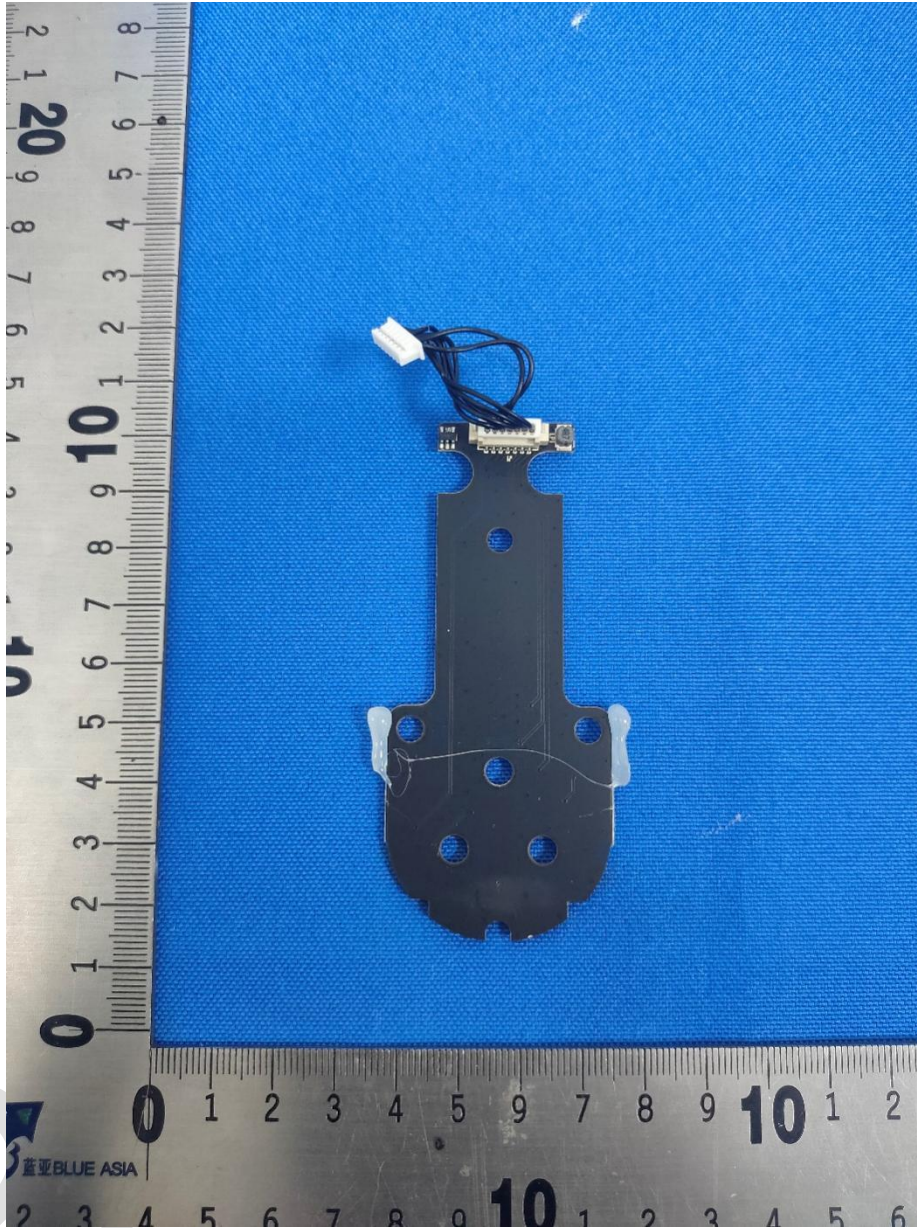


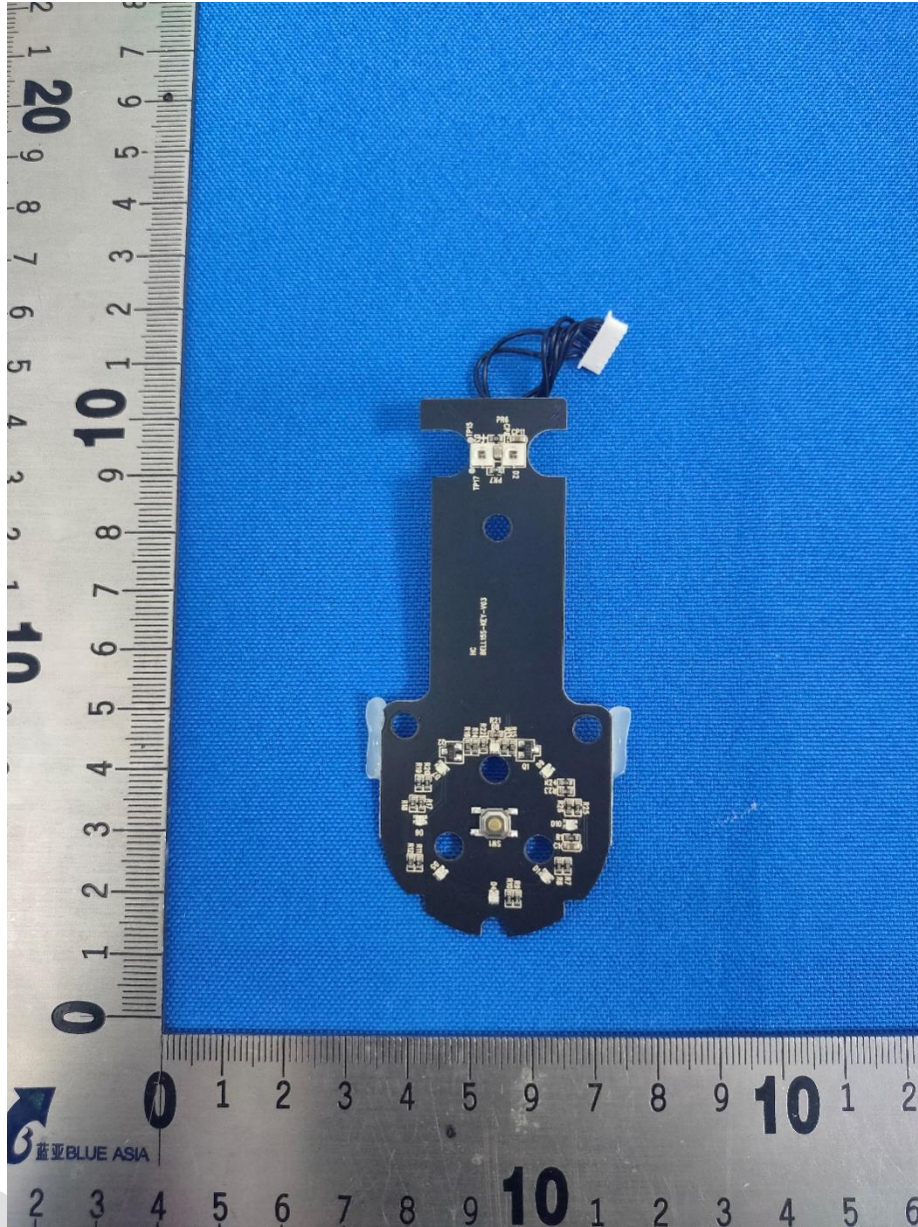






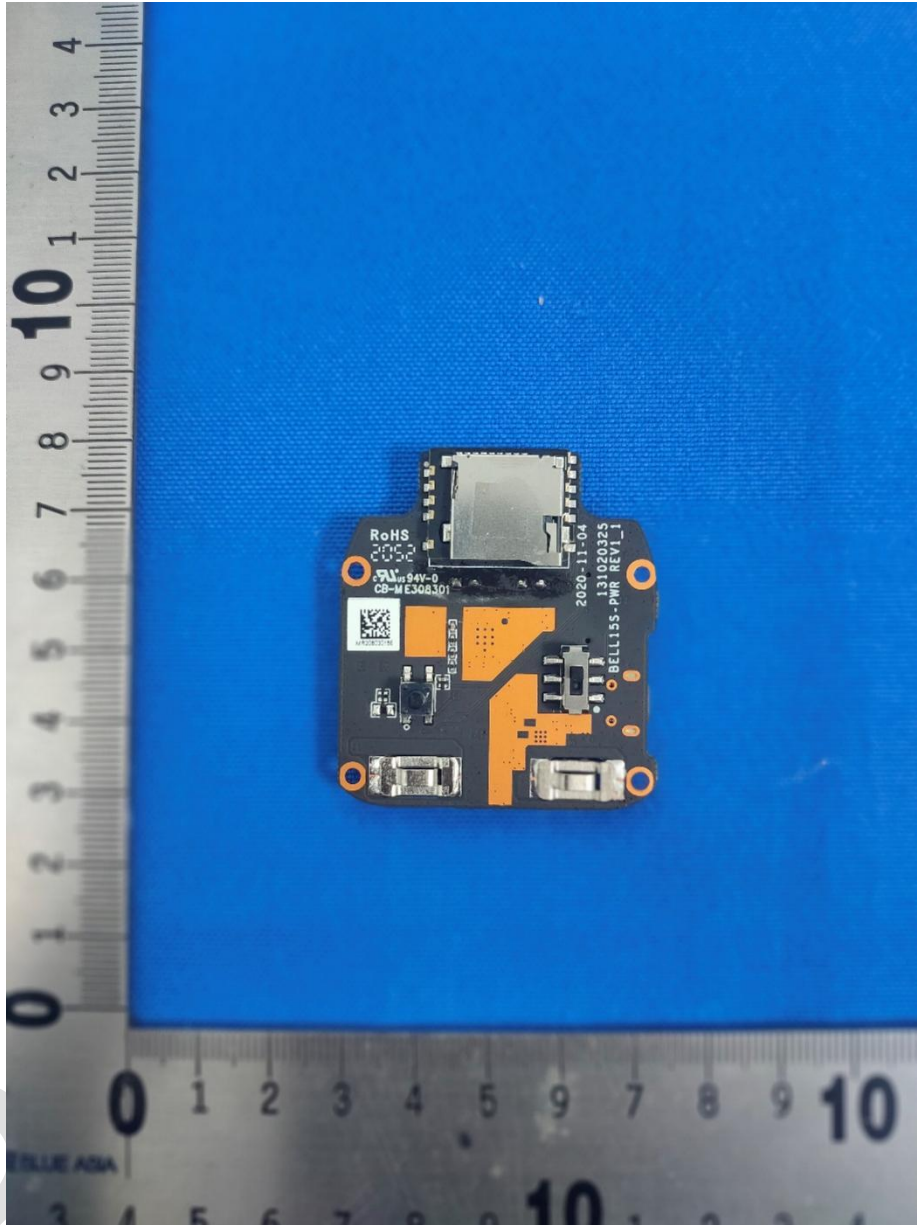


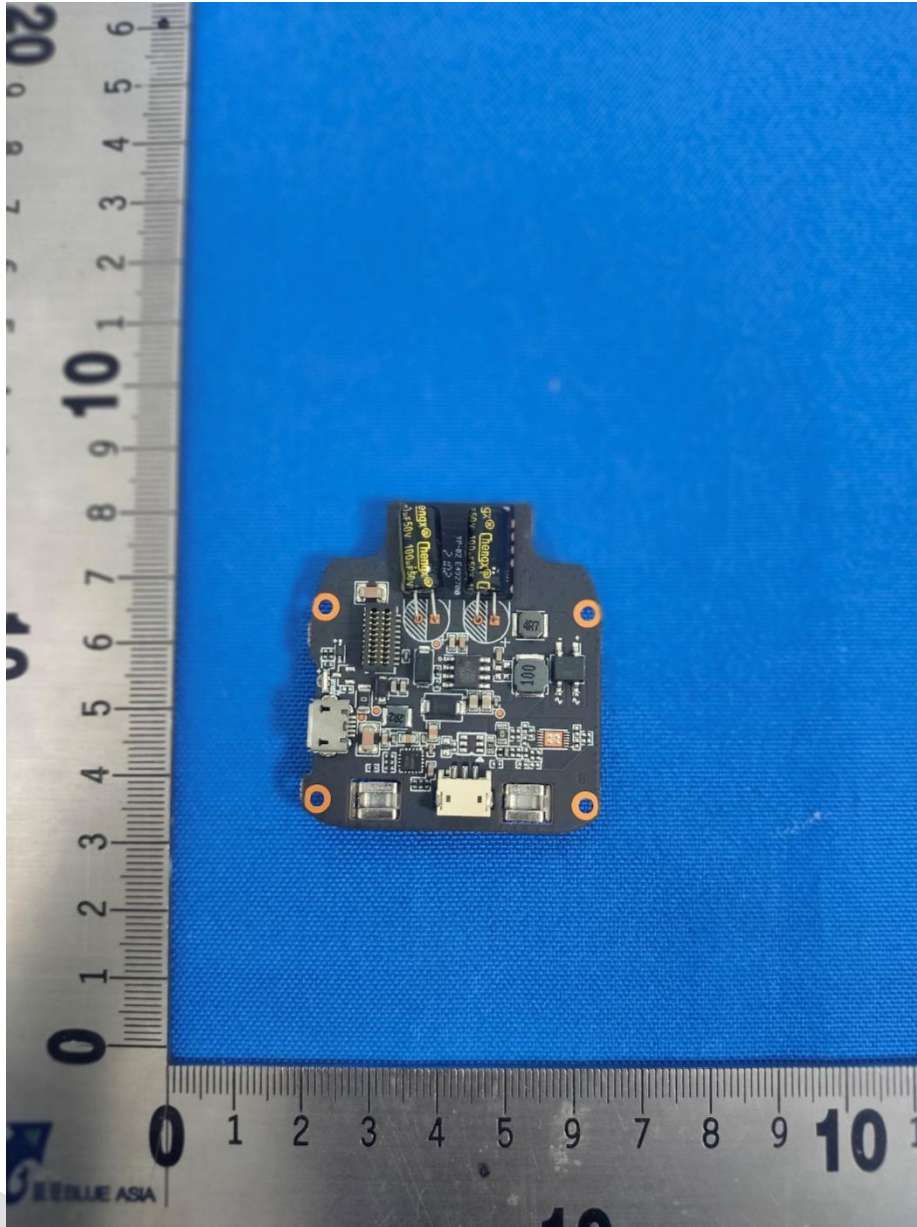


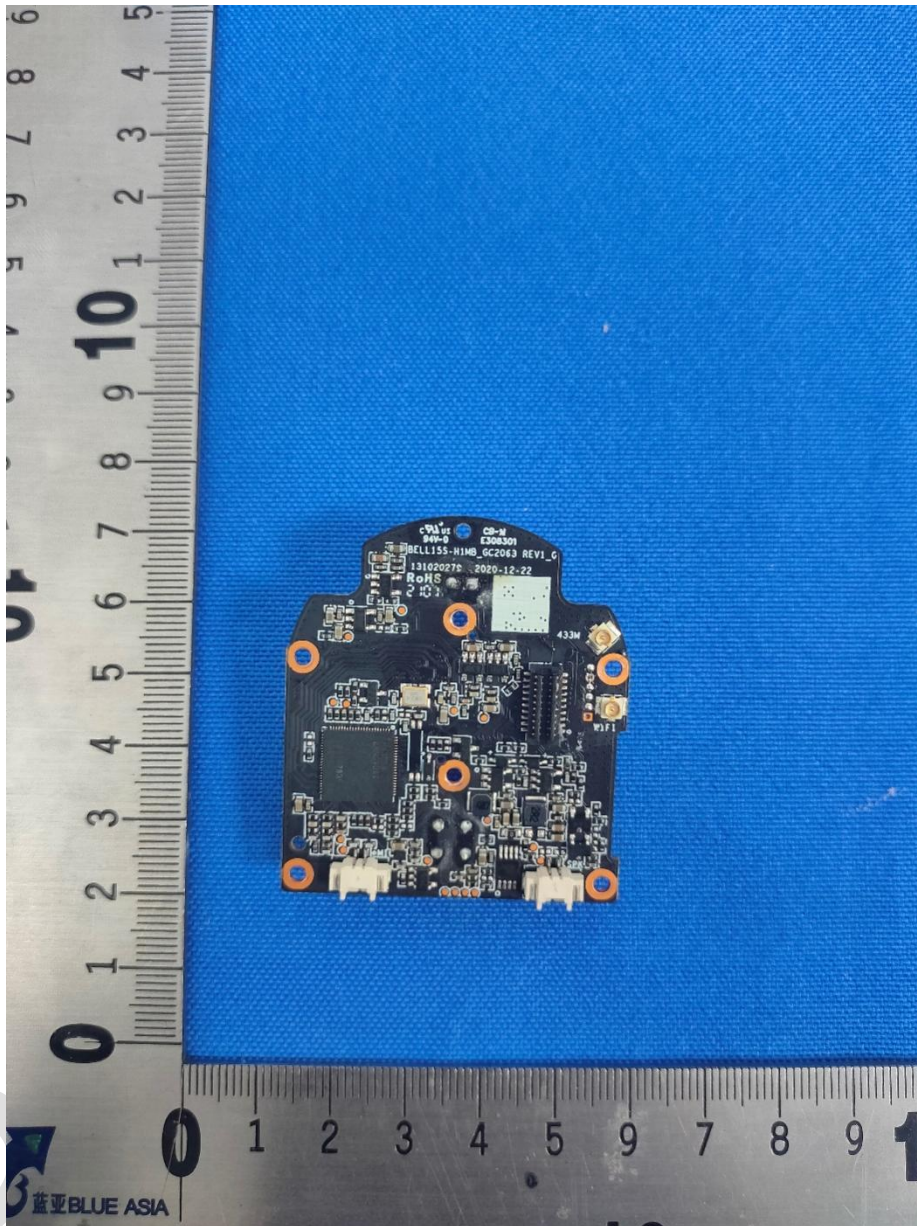


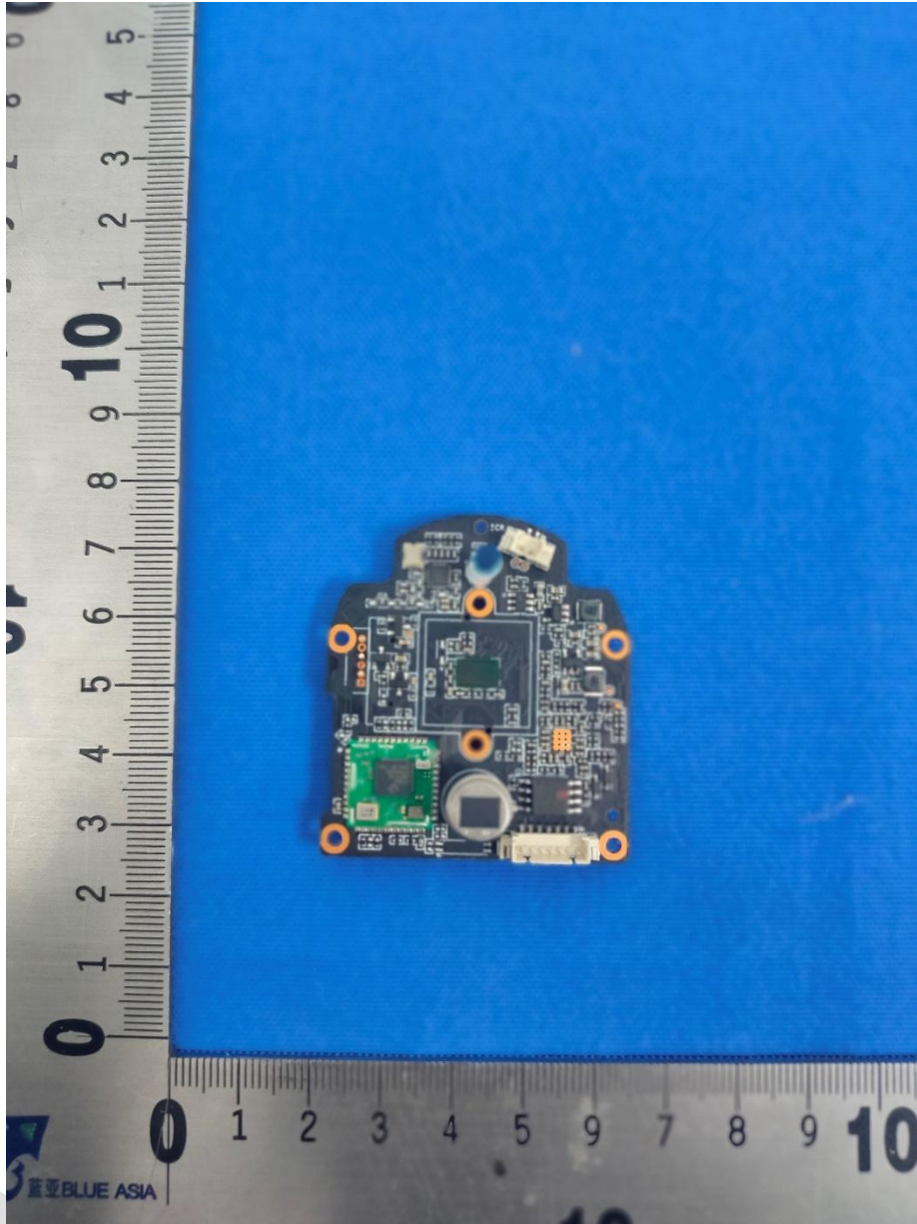












----END OF REPORT----

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