

11.3. LIMITS AND MEASUREMENT RESULT

15.209(a) Limit in the below table has to be followed

Frequencies (MHz)	Field Strength (micorvolts/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

Note: All modes were tested For restricted band radiated emission,
the test records reported below are the worst result compared to other modes.

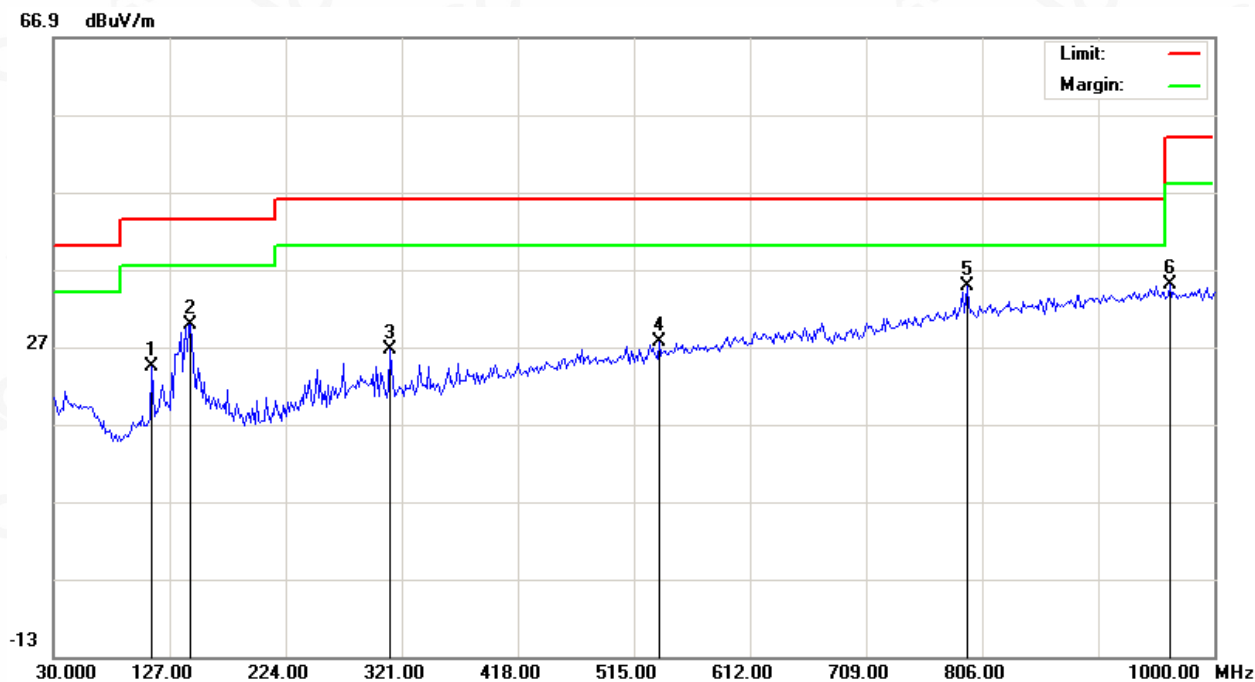
11.4. TEST RESULT

RADIATED EMISSION BELOW 30MHZ

No emission found between lowest internal used/generated frequencies to 30MHz.

RADIATED EMISSION BELOW 1GHZ

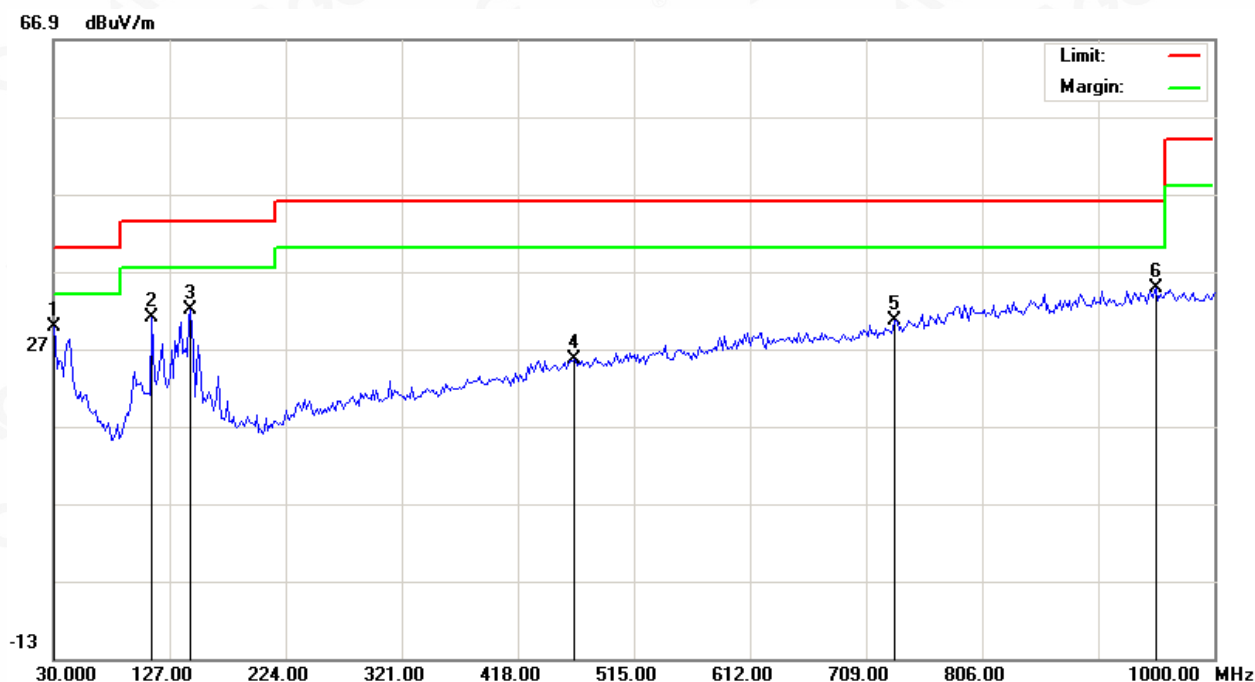
EUT	Action camera	Model Name	AC4K-600
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2412MHZ	Antenna	Horizontal



No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		112.4500	7.21	17.23	24.44	43.50	-19.06	peak			
2		144.7833	10.67	19.22	29.89	43.50	-13.61	peak			
3		311.3000	6.67	19.87	26.54	46.00	-19.46	peak			
4		536.0167	1.84	25.70	27.54	46.00	-18.46	peak			
5	*	793.0667	4.58	30.25	34.83	46.00	-11.17	peak			
6		962.8167	2.67	32.24	34.91	54.00	-19.09	peak			

RESULT: PASS

EUT	Action camera	Model Name	AC4K-600
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1 2412MHZ	Antenna	Vertical



No.	Mk	Freq. MHz	Reading dBuV	Factor dB/m	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1	*	30.0000	11.57	18.17	29.74	40.00	-10.26	peak			
2		112.4500	13.71	17.23	30.94	43.50	-12.56	peak			
3		144.7833	12.73	19.22	31.95	43.50	-11.55	peak			
4		464.8833	1.37	24.28	25.65	46.00	-20.35	peak			
5		733.2500	1.64	28.90	30.54	46.00	-15.46	peak			
6		951.5000	2.65	32.14	34.79	46.00	-11.21	peak			

RESULT: PASS

Note: 1. Factor=Antenna Factor + Cable loss, Margin=Measurement-Limit.

2. The "Factor" value can be calculated automatically by software of measurement system.

3. All test modes had been pre-tested. The 802.11b at low channel is the worst case and recorded in the report.

RADIATED EMISSION ABOVE 1GHZ

EUT	Action camera	Model Name	AC4K-600
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2412MHZ	Antenna	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4824.000	53.24	0.08	53.32	74	-20.68	peak
4824.000	44.37	0.08	44.45	54	-9.55	AVG
7236.000	47.12	2.21	49.33	74	-24.67	peak
7236.000	38.26	2.21	40.47	54	-13.53	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT	Action camera	Model Name	AC4K-600
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2412MHZ	Antenna	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4824.000	52.34	0.08	52.42	74	-21.58	peak
4824.000	43.78	0.08	43.86	54	-10.14	AVG
7236.000	44.15	2.21	46.36	74	-27.64	peak
7236.000	35.27	2.21	37.48	54	-16.52	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT	Action camera	Model Name	AC4K-600
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2437MHZ	Antenna	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4874.000	52.48	0.14	52.62	74	-21.38	peak
4874.000	42.16	0.14	42.3	54	-11.7	AVG
7311.000	46.78	2.36	49.14	74	-24.86	peak
7311.000	37.23	2.36	39.59	54	-14.41	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT	Action camera	Model Name	AC4K-600
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2437MHZ	Antenna	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4874.000	52.86	0.14	53	74	-21	peak
4874.000	43.48	0.14	43.62	54	-10.38	AVG
7311.000	44.17	2.36	46.53	74	-27.47	peak
7311.000	35.02	2.36	37.38	54	-16.62	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT	Action camera	Model Name	AC4K-600
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2462MHZ	Antenna	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4924.000	53.21	0.22	53.43	74	-20.57	peak
4924.000	43.37	0.22	43.59	54	-10.41	AVG
7386.000	44.23	2.64	46.87	74	-27.13	peak
7386.000	34.19	2.64	36.83	54	-17.17	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT	Action camera	Model Name	AC4K-600
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2462MHZ	Antenna	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4924.000	50.22	0.22	50.44	74	-23.56	peak
4924.000	40.94	0.22	41.16	54	-12.84	AVG
7386.000	42.35	2.64	44.99	74	-29.01	peak
7386.000	33.25	2.64	35.89	54	-18.11	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

RESULT: PASS

Note:

Other emissions from 1G to 25 GHz are considered as ambient noise. No recording in the test report.

Factor = Antenna Factor + Cable loss - Amplifier gain, Over=Measure-Limit.

The "Factor" value can be calculated automatically by software of measurement system.

All test modes had been pre-tested. The 802.11b mode is the worst case and recorded in the report.

12. BAND EDGE EMISSION

12.1. MEASUREMENT PROCEDURE

Radiated restricted band edge measurements

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting

12.2. TEST SET-UP

same as 11.2

Note:

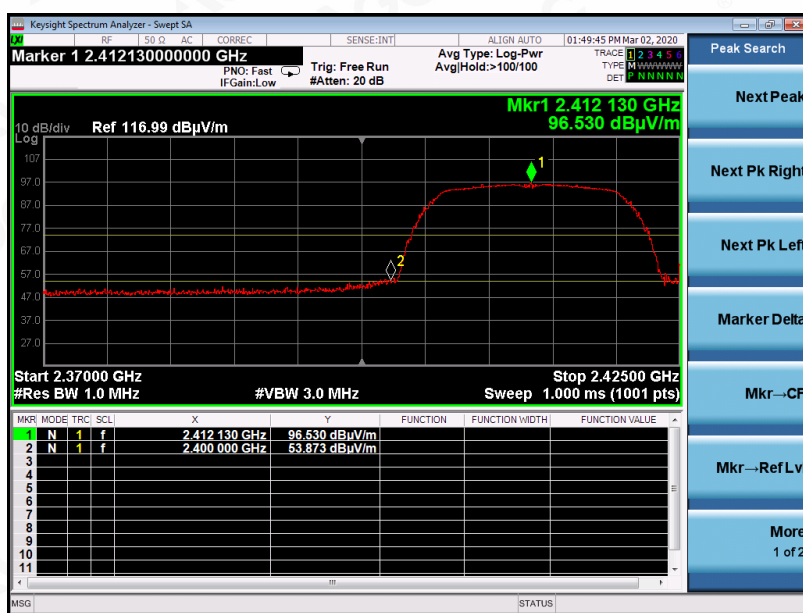
1. Factor=Antenna Factor + Cable loss - Amplifier gain. Field Strength=Factor + Reading level
2. The factor had been edited in the "Input Correction" of the Spectrum Analyzer. So the Amplitude of test plots is equal to Reading level plus the Factor in dB. Use the A dB(μ V) to represent the Amplitude. Use the F dB(μ V/m) to represent the Field Strength. So A=F.
3. All test models had been pre-tested. The 802.11b model is worst case and recorded in the report



12.3. TEST RESULT

EUT	Action camera	Model Name	AC4K-600
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1 2412MHZ	Antenna	Horizontal

PK



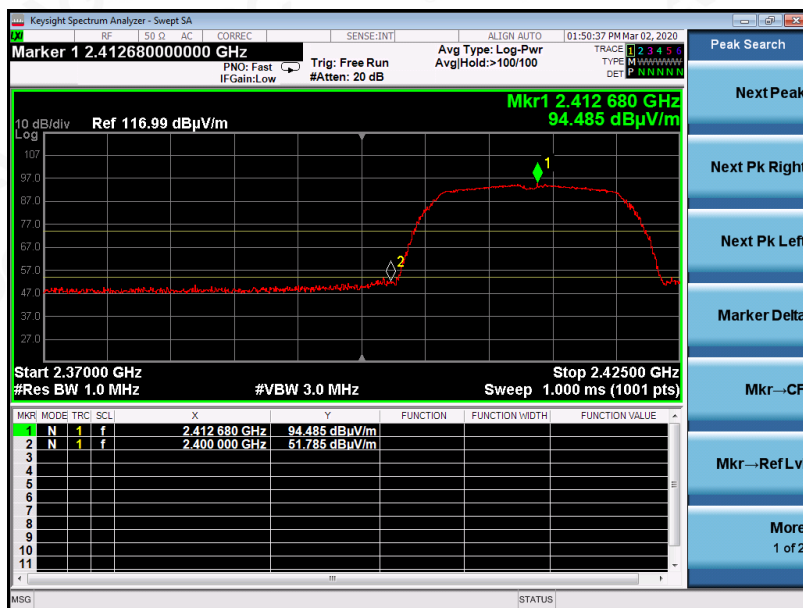
AV



RESULT: PASS

EUT	Action camera	Model Name	AC4K-600
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11g with data rate 1 2412MHZ	Antenna	Vertical

PK



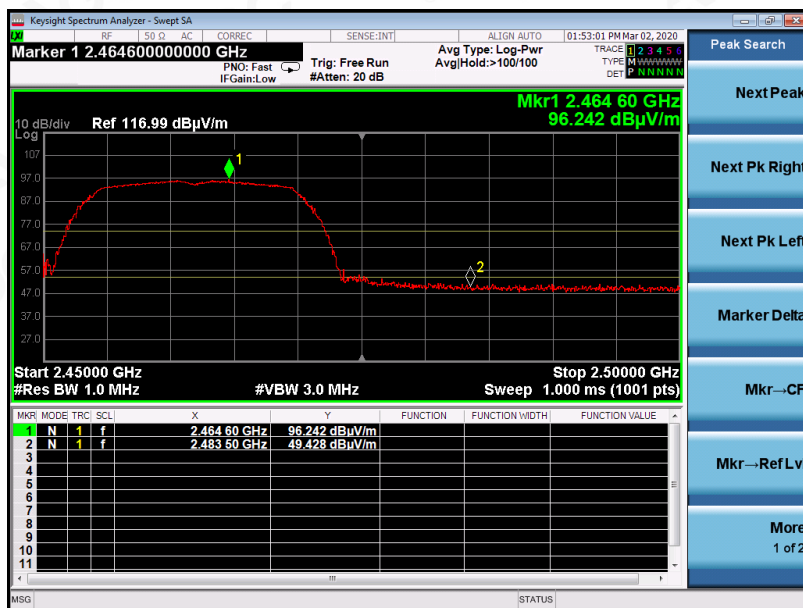
AV



RESULT: PASS

EUT	Action camera	Model Name	AC4K-600
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11g with data rate 1 2462MHZ	Antenna	Horizontal

PK



AV



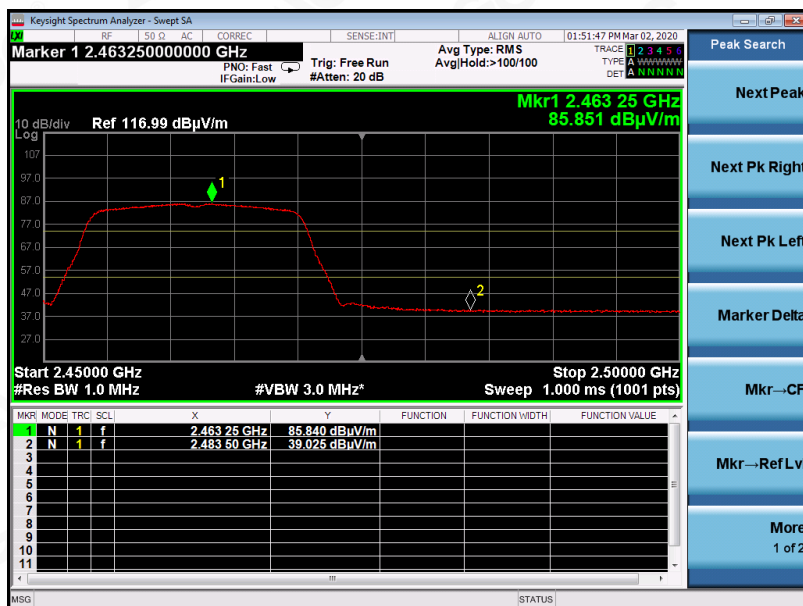
RESULT: PASS

EUT	Action camera	Model Name	AC4K-600
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11g with data rate 1 2462MHZ	Antenna	Vertical

PK



AV



RESULT: PASS

13. FCC LINE CONDUCTED EMISSION TEST

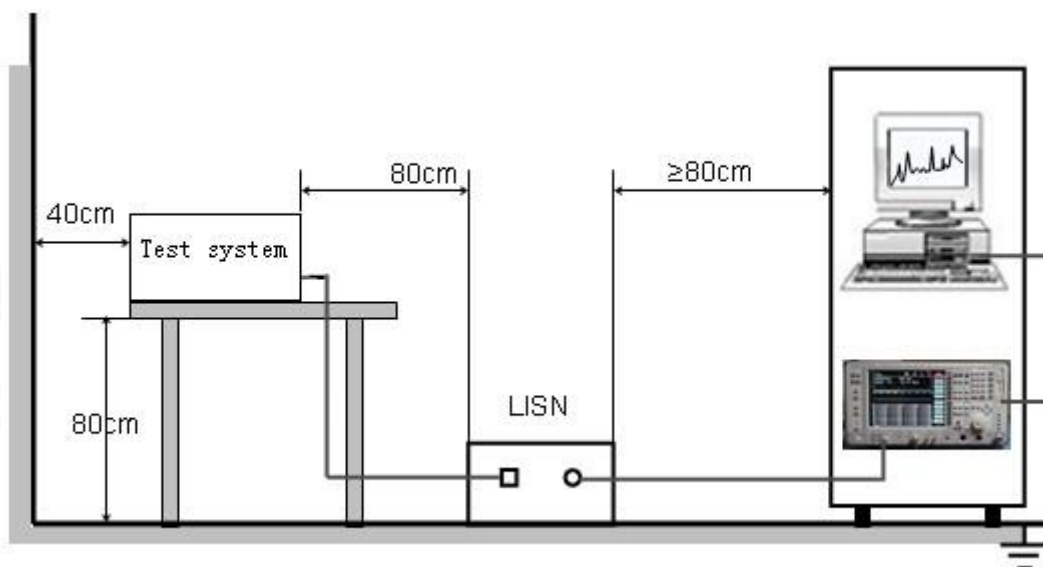
13.1. LIMITS OF LINE CONDUCTED EMISSION TEST

Frequency	Maximum RF Line Voltage	
	Q.P.(dBuV)	Average(dBuV)
150kHz-500kHz	66-56	56-46
500kHz-5MHz	56	46
5MHz-30MHz	60	50

Note:

1. The lower limit shall apply at the transition frequency.
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50MHz.

13.2. BLOCK DIAGRAM OF TEST SETUP



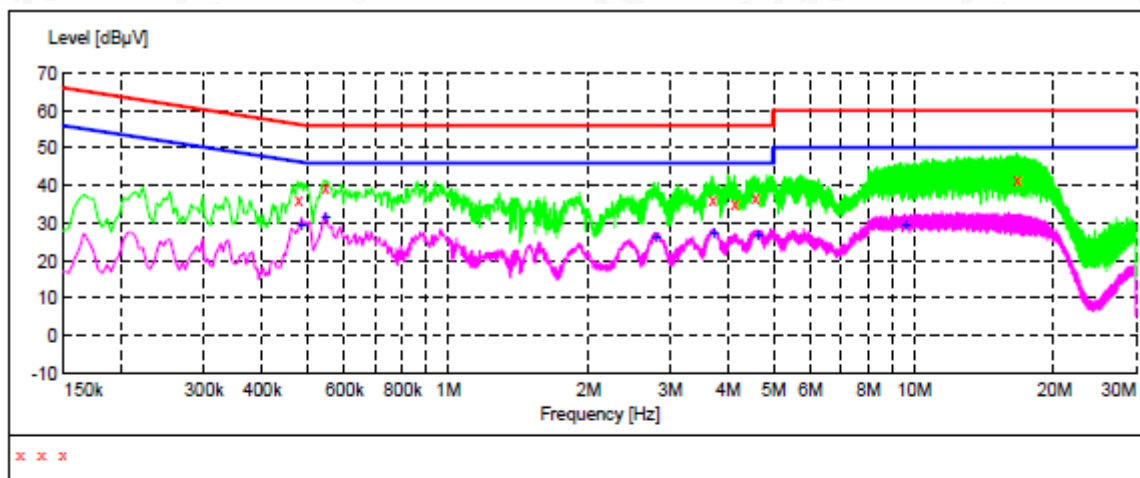
13.3. PROCEDURE OF LINE CONDUCTED EMISSION TEST

- (1) The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- (2) Support equipment, if needed, was placed as per ANSI C63.10.
- (3) All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- (4) The EUT received AC120V/60Hz power from a LISN.
- (5) The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- (6) Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
- (7) During the above scans, the emissions were maximized by cable manipulation.
- (8) A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions.
- (9) Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less -2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.



13.4. TEST RESULT OF LINE CONDUCTED EMISSION TEST

LINE CONDUCTED EMISSION TEST-L1



MEASUREMENT RESULT

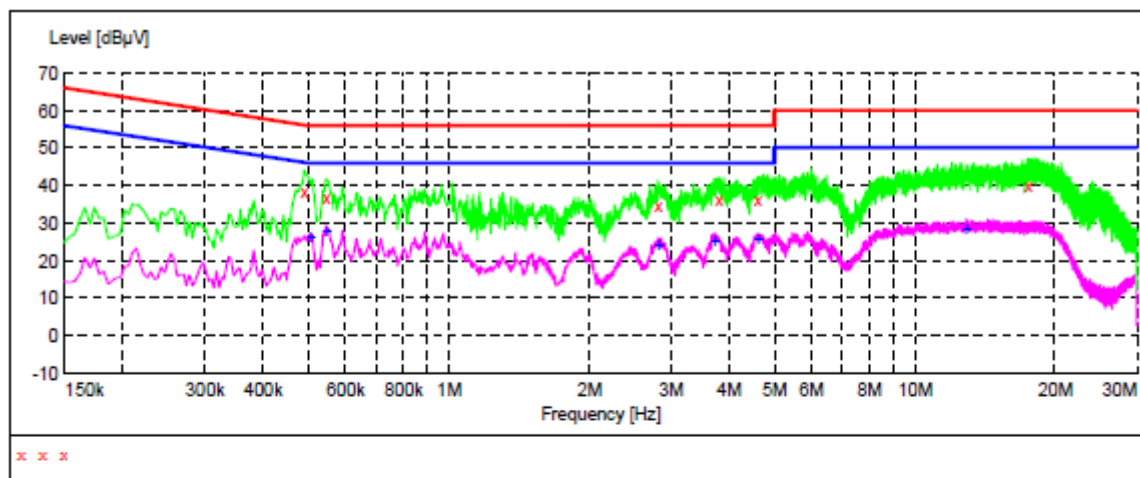
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.478000	36.40	10.9	56	20.0	QP	L1
0.546000	39.50	10.8	56	16.5	QP	L1
3.702000	36.50	11.4	56	19.5	QP	L1
4.126000	35.60	11.4	56	20.4	QP	L1
4.574000	36.70	11.4	56	19.3	QP	L1
16.666000	41.60	12.3	60	18.4	QP	L1

MEASUREMENT RESULT

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.486000	30.00	10.9	46	16.2	AV	L1
0.546000	32.10	10.8	46	13.9	AV	L1
2.798000	26.80	11.3	46	19.2	AV	L1
3.730000	27.90	11.4	46	18.1	AV	L1
4.638000	27.50	11.5	46	18.5	AV	L1
9.570000	29.70	11.7	50	20.3	AV	L1

RESULT: PASS

LINE CONDUCTED EMISSION TEST-N



MEASUREMENT RESULT

Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line
0.490000	38.60	11.0	56	17.6	QP	N
0.546000	37.00	10.8	56	19.0	QP	N
2.818000	34.80	11.3	56	21.2	QP	N
3.806000	36.20	11.4	56	19.8	QP	N
4.614000	36.30	11.5	56	19.7	QP	N
17.558000	40.20	12.4	60	19.8	QP	N

MEASUREMENT RESULT

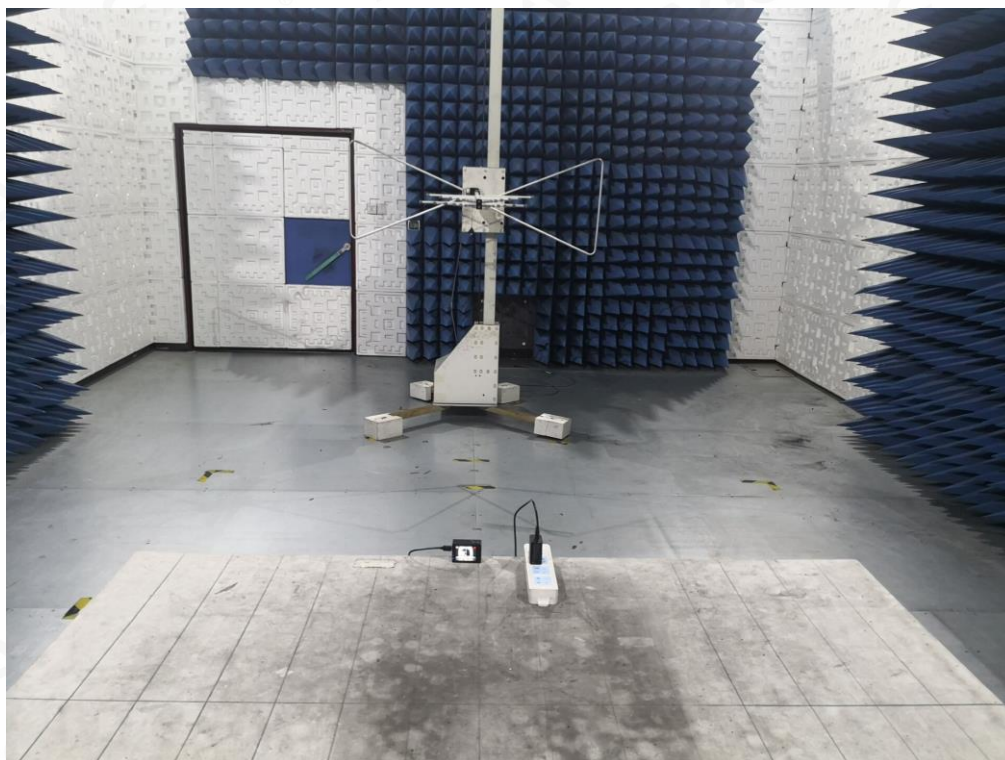
Frequency MHz	Level dBuV	Transd dB	Limit dBuV	Margin dB	Detector	Line
0.506000	26.50	11.0	46	19.5	AV	N
0.546000	28.40	10.8	46	17.6	AV	N
2.826000	24.80	11.3	46	21.2	AV	N
3.722000	25.80	11.4	46	20.2	AV	N
4.602000	26.10	11.5	46	19.9	AV	N
12.926000	28.90	12.0	50	21.1	AV	N

RESULT: PASS

Note: All test modes had been pre-tested. The 802.11b at low channel is the worst case and recorded in the report

APPENDIX A: PHOTOGRAPHS OF TEST SETUP

FCC RADIATED EMISSION TEST SETUP BELOW 1GHZ



FCC RADIATED EMISSION TEST SETUP ABOVE 1GHZ

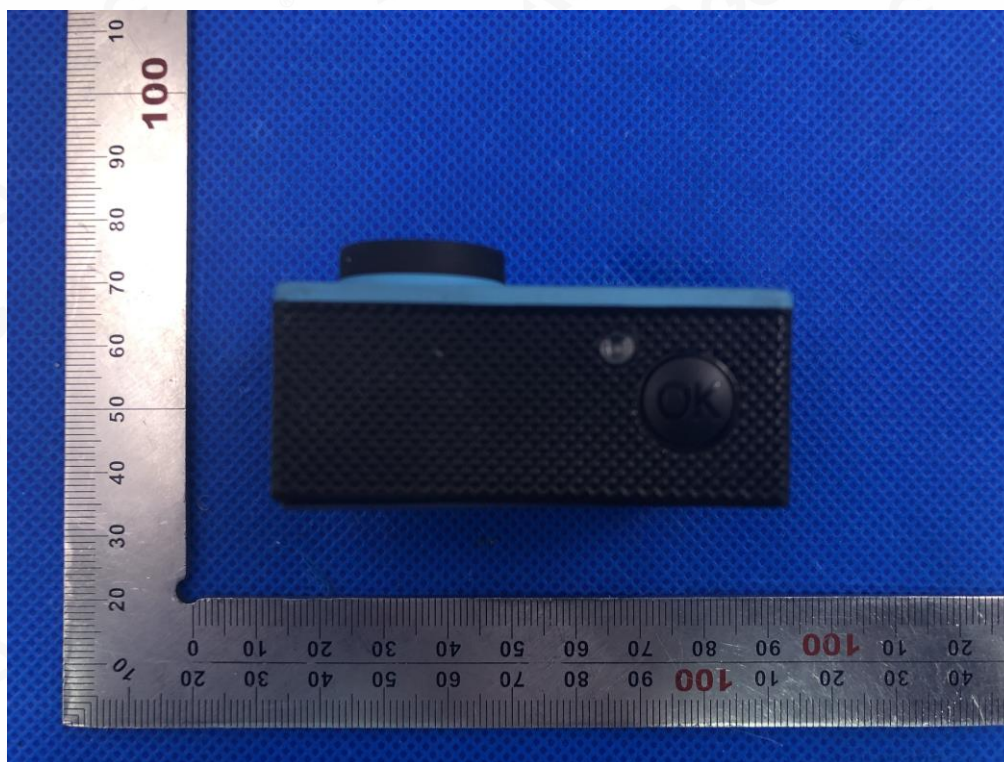


FCC CONDUCTED EMISSION TEST SETUP



APPENDIX B: PHOTOGRAPHS OF EUT

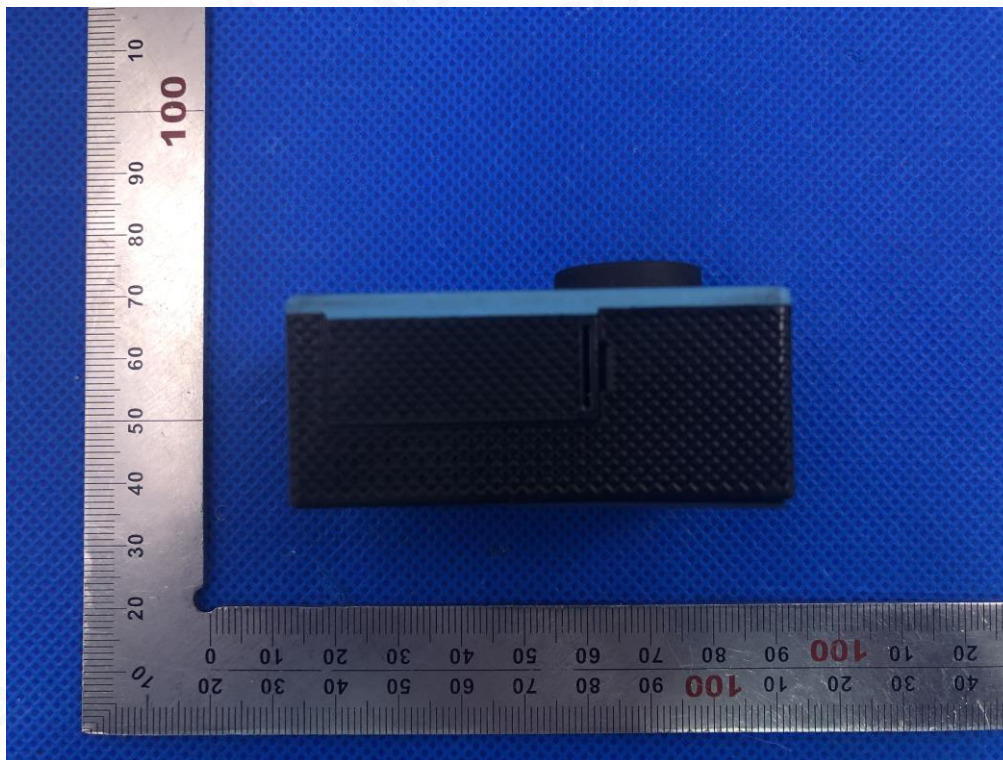
TOP VIEW OF EUT -blue



TOP VIEW OF EUT -black



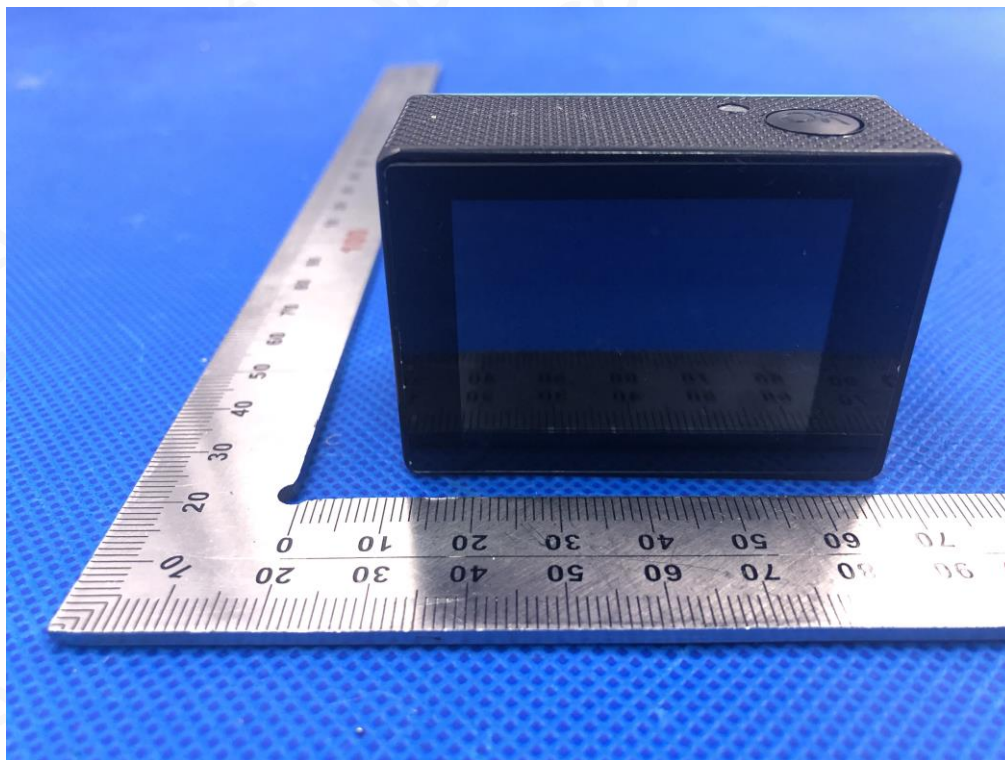
BOTTOM VIEW OF EUT



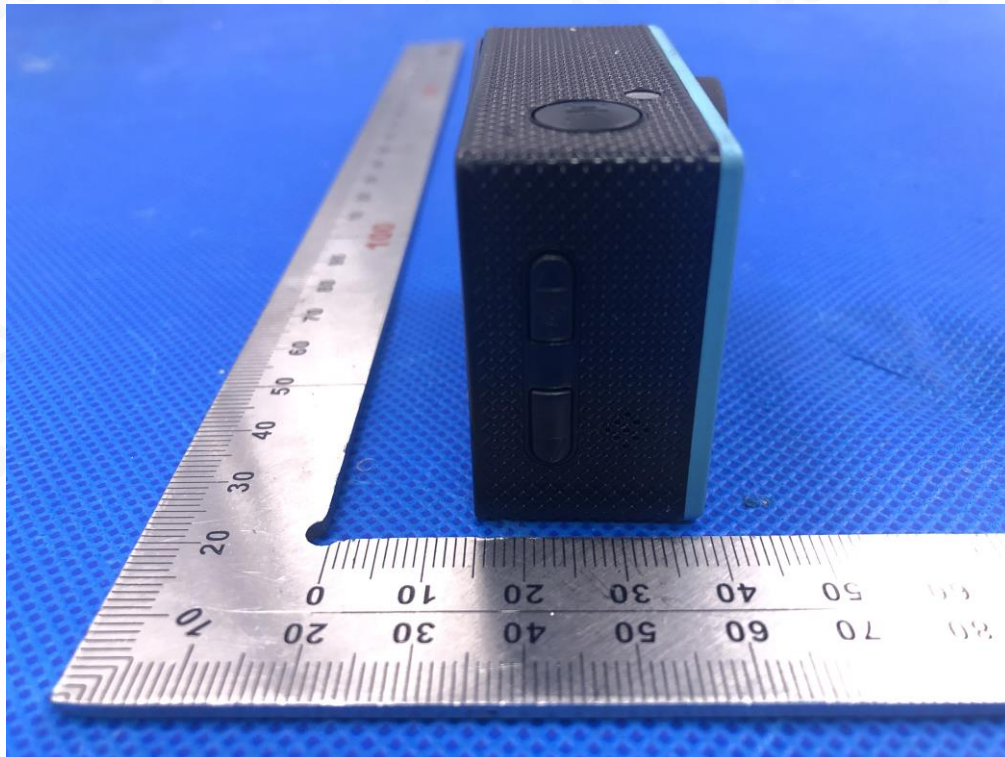
FRONT VIEW OF EUT



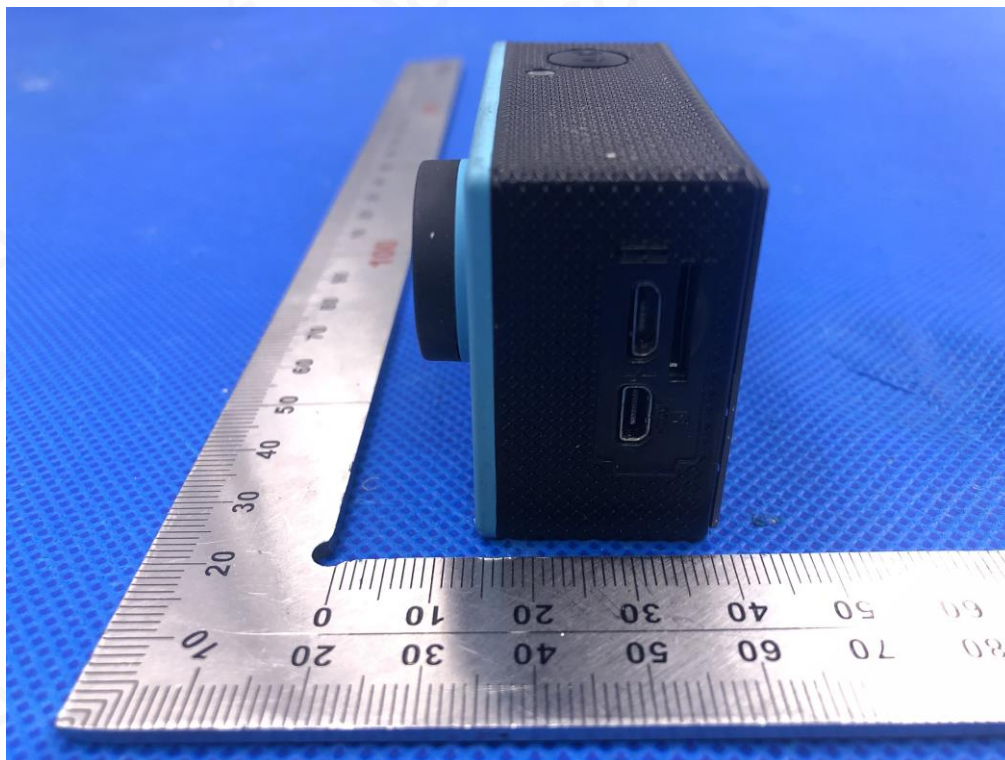
BACK VIEW OF EUT



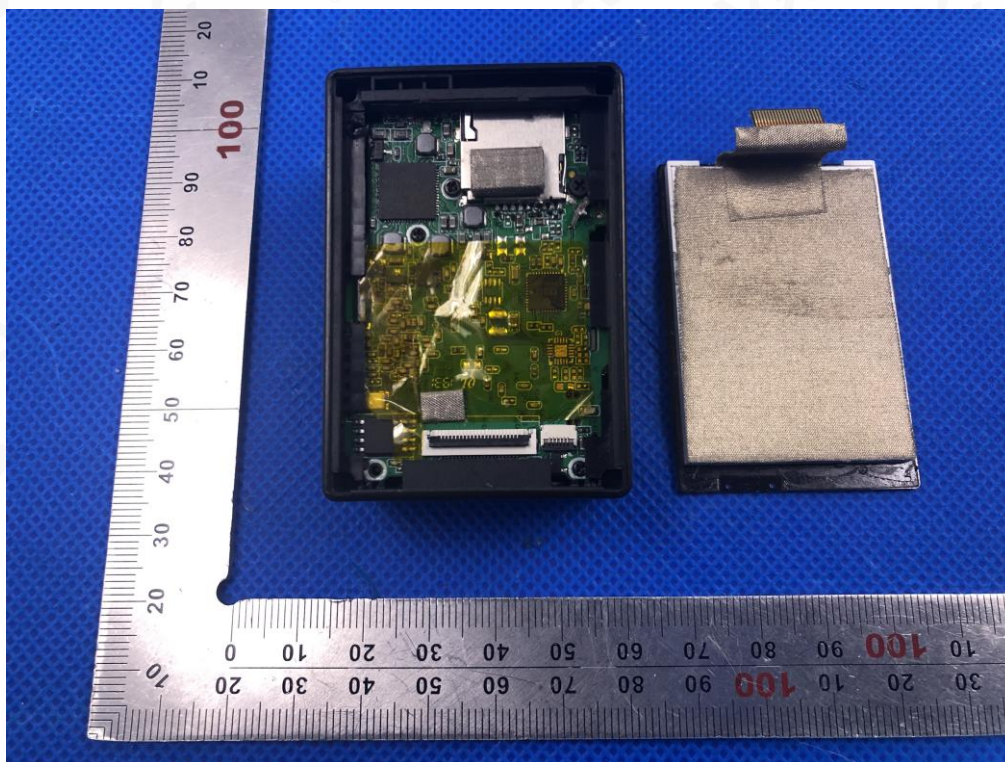
LEFT VIEW OF EUT



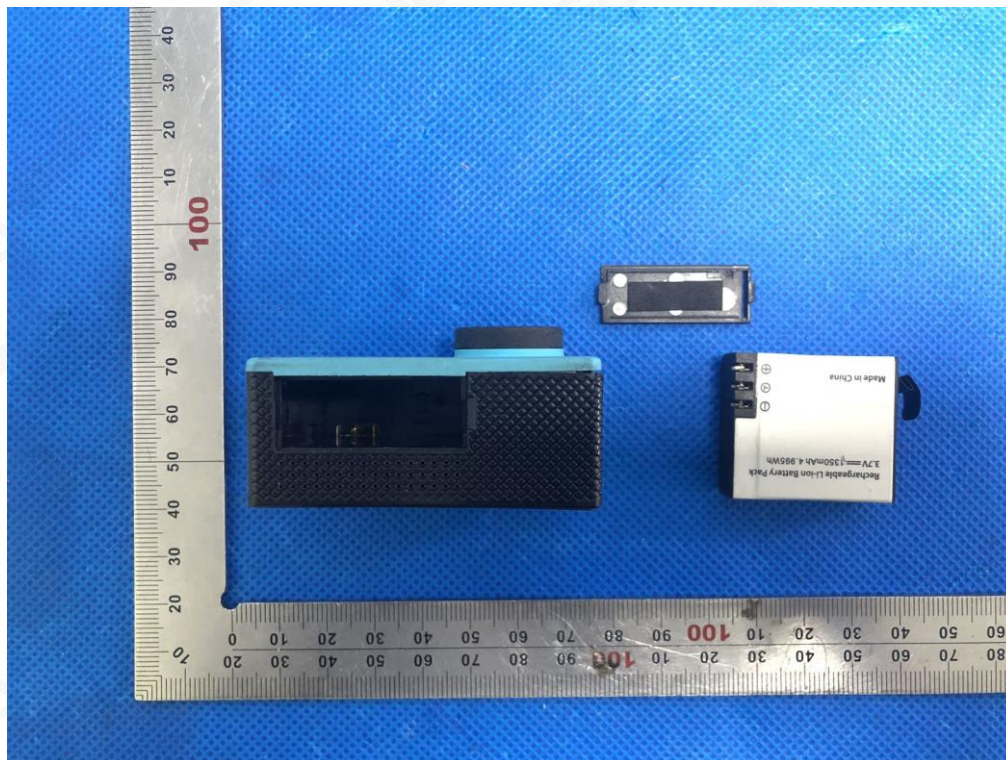
RIGHT VIEW OF EUT



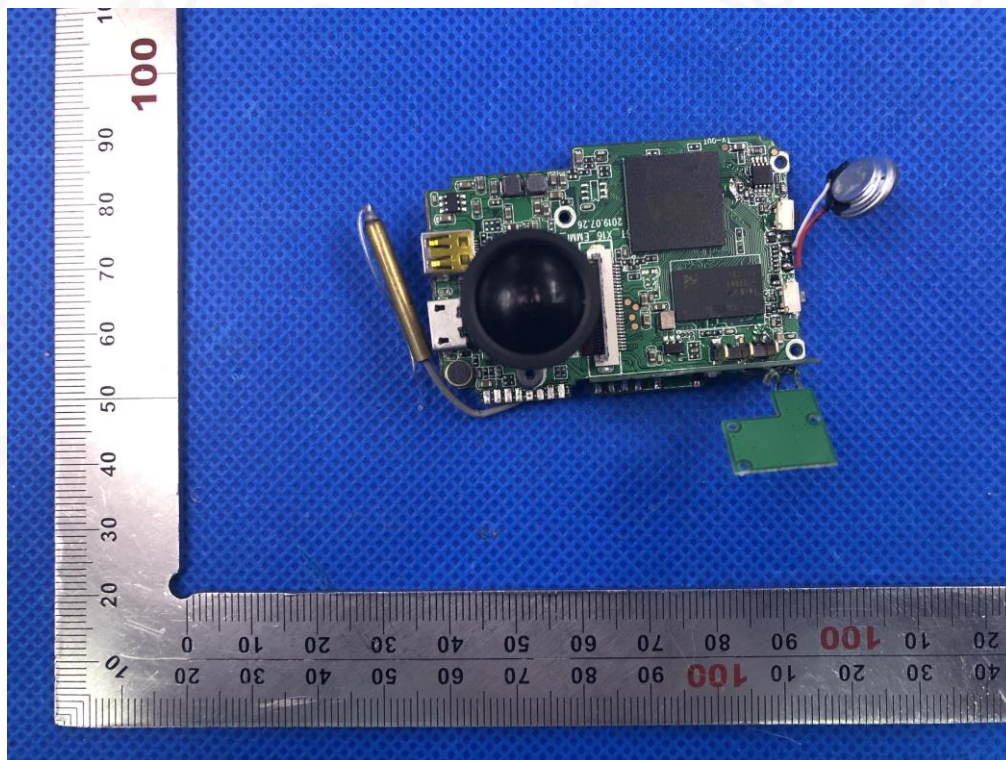
OPEN VIEW OF EUT-1



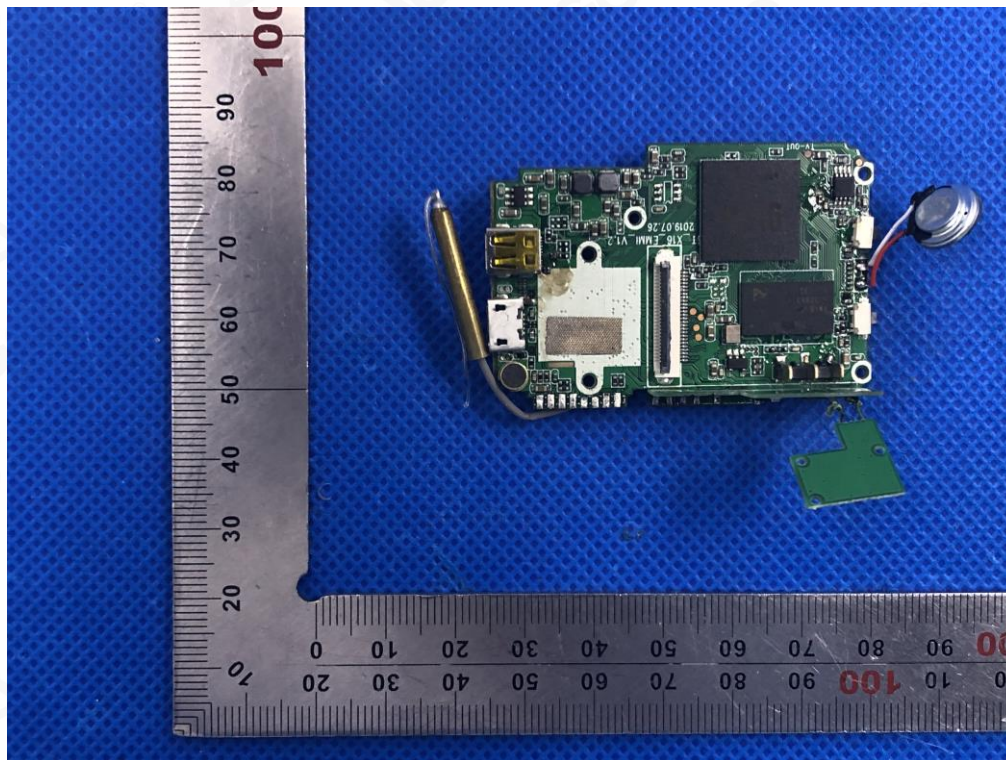
OPEN VIEW OF EUT-2



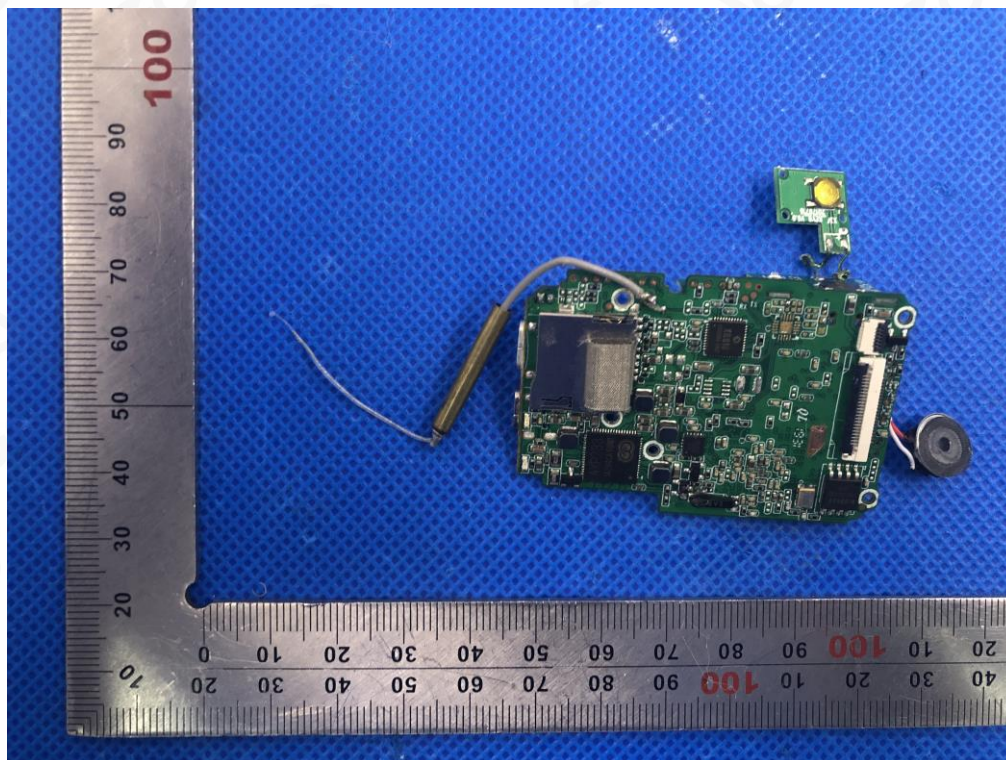
INTERNAL VIEW-1 OF EUT



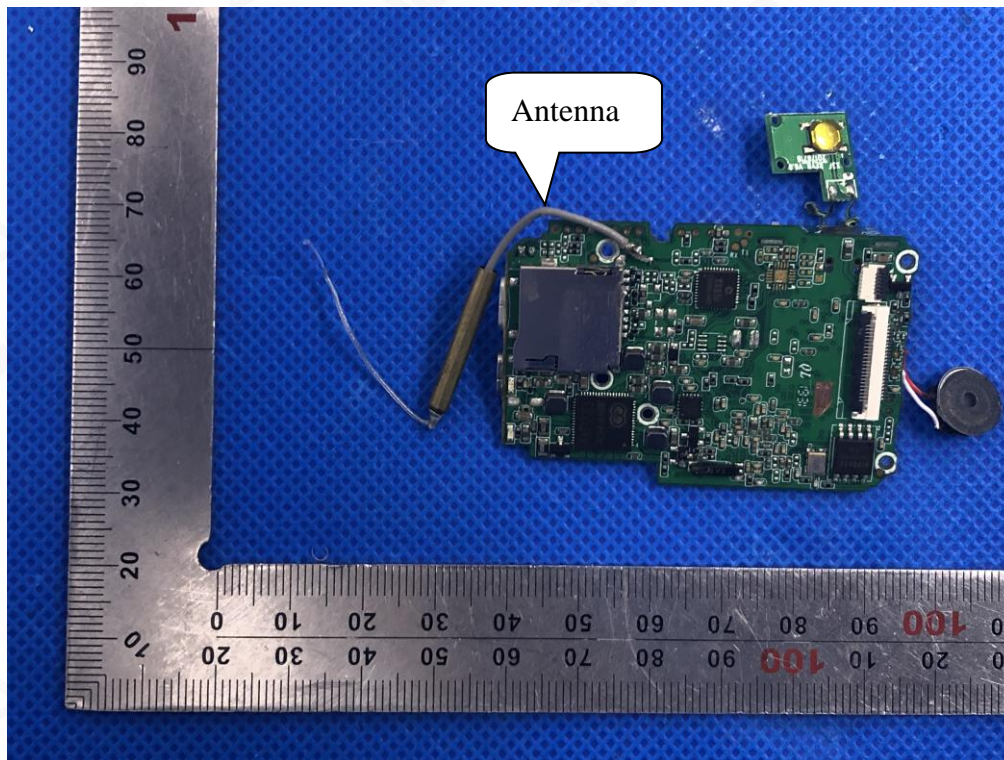
INTERNAL VIEW-2 OF EUT



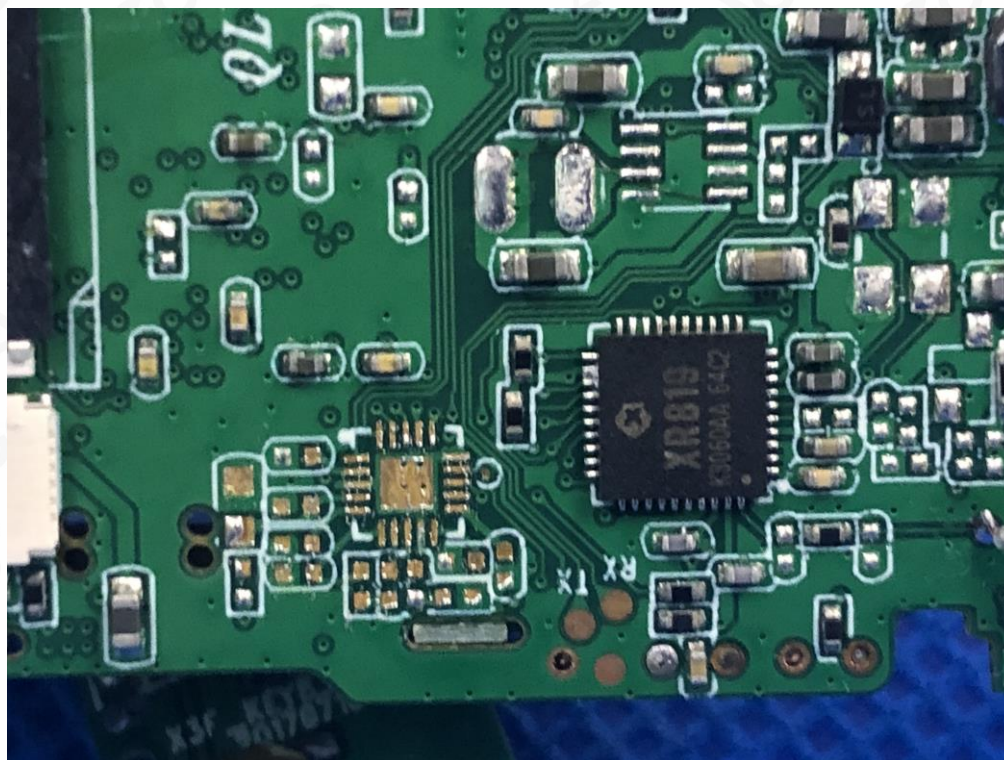
INTERNAL VIEW-3 OF EUT



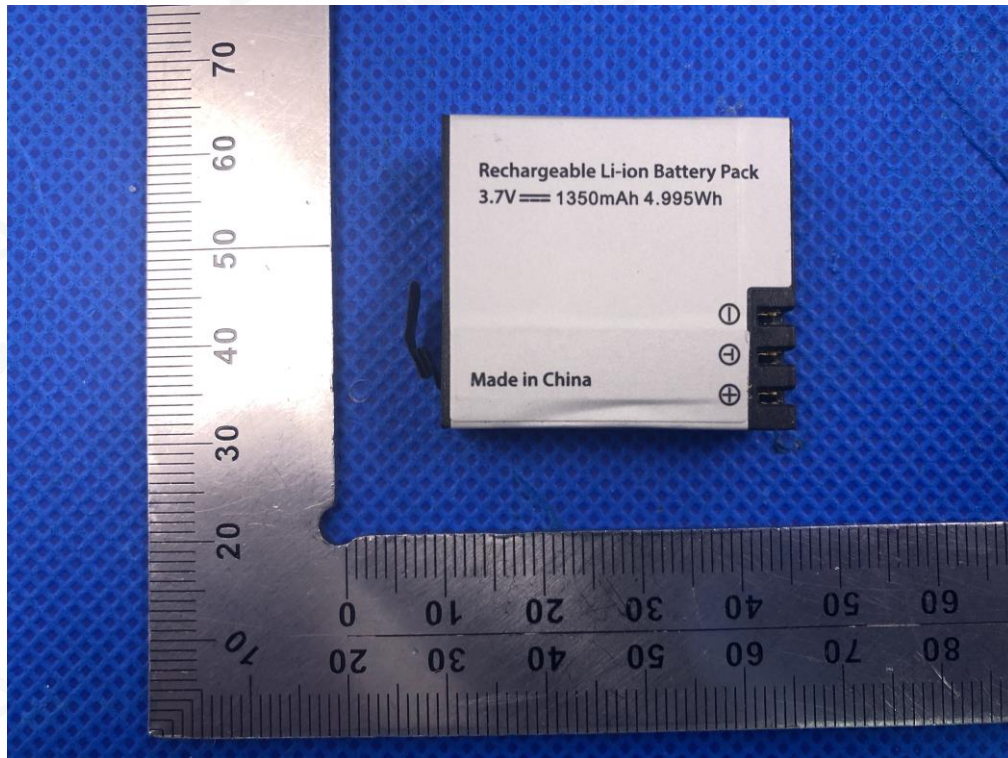
INTERNAL VIEW-4 OF EUT



INTERNAL VIEW-5 OF EUT



VIEW OF BATTERY



----END OF REPORT----



Attestation of Global Compliance

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