14. FCC LINE CONDUCTED EMISSION TEST

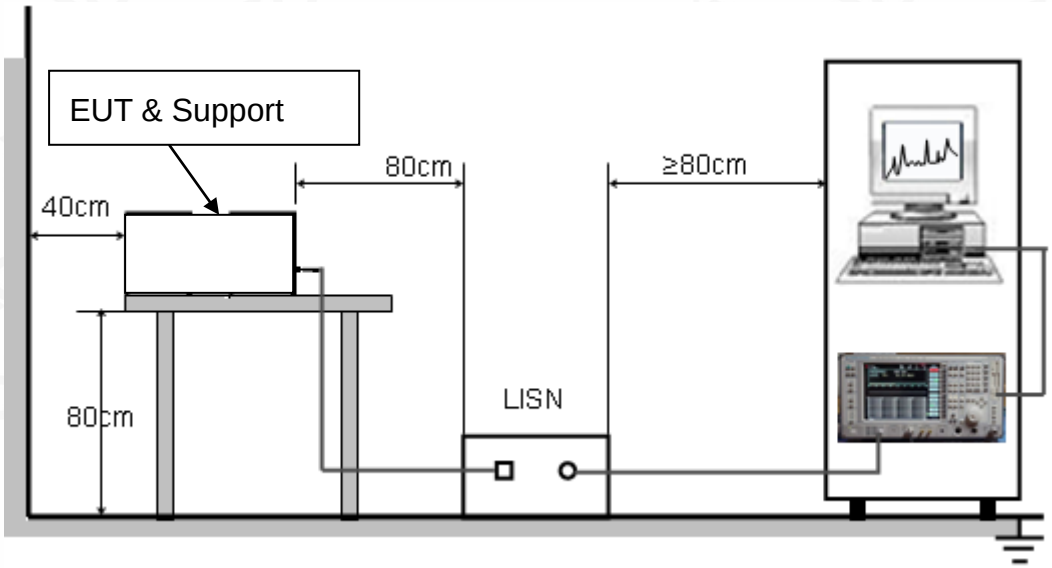
14.1. LIMITS OF LINE CONDUCTED EMISSION TEST

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 0.50 MHz.

14.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST



14.3. PRELIMINARY 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. All support equipments received AC120V/60Hz power from a LISN, if any.
5. The EUT received DC charging voltage by adapter which received AC120V/60Hz power by a LISN.
6. The 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.
7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.
9. The test mode(s) were scanned during the preliminary test.

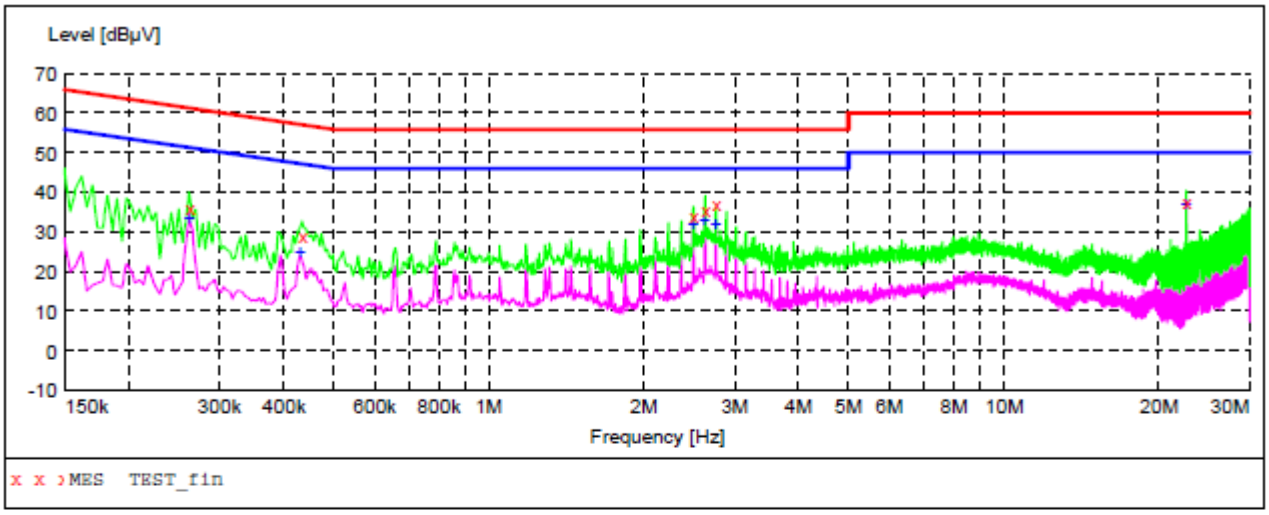
Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

14.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. 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.
3. The test data of the worst case condition(s) was reported on the Summary Data page.

14.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

Line Conducted Emission Test Line 1-L



MEASUREMENT RESULT: "TEST_fin"

7/3/2019 10:24PM

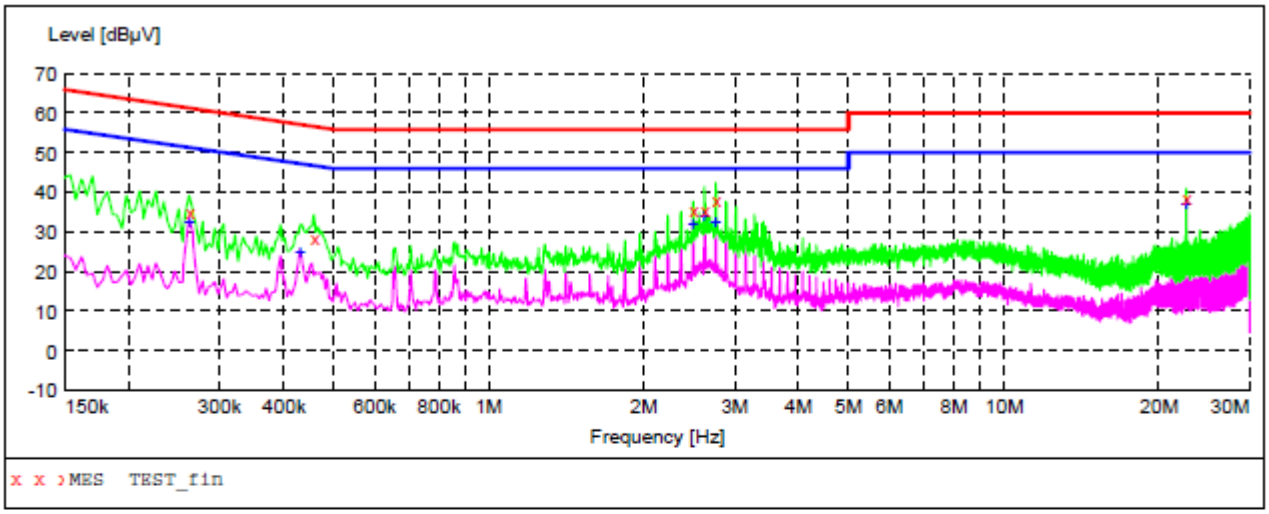
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.262000	36.00	10.9	61	25.4	QP	L1	FLO
0.434000	29.30	10.6	57	27.9	QP	L1	FLO
2.494000	34.40	11.5	56	21.6	QP	L1	FLO
2.630000	35.50	11.5	56	20.5	QP	L1	FLO
2.758000	37.10	11.5	56	18.9	QP	L1	FLO
22.582000	37.90	12.6	60	22.1	QP	L1	FLO

MEASUREMENT RESULT: "TEST_fin2"

7/3/2019 10:24PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.262000	33.70	10.9	51	17.7	AV	L1	FLO
0.430000	25.10	10.6	47	22.2	AV	L1	FLO
2.494000	32.20	11.5	46	13.8	AV	L1	FLO
2.626000	33.10	11.5	46	12.9	AV	L1	FLO
2.758000	32.10	11.5	46	13.9	AV	L1	FLO
22.578000	37.00	12.6	50	13.0	AV	L1	FLO

Line Conducted Emission Test Line 2-N



MEASUREMENT RESULT: "TEST_fin"

7/3/2019 10:21PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.262000	35.00	10.9	61	26.4	QP	N	FLO
0.458000	28.40	10.8	57	28.3	QP	N	FLO
2.494000	35.80	11.5	56	20.2	QP	N	FLO
2.622000	35.60	11.5	56	20.4	QP	N	FLO
2.758000	38.40	11.5	56	17.6	QP	N	FLO
22.578000	38.60	12.6	60	21.4	QP	N	FLO

MEASUREMENT RESULT: "TEST_fin2"

7/3/2019 10:21PM

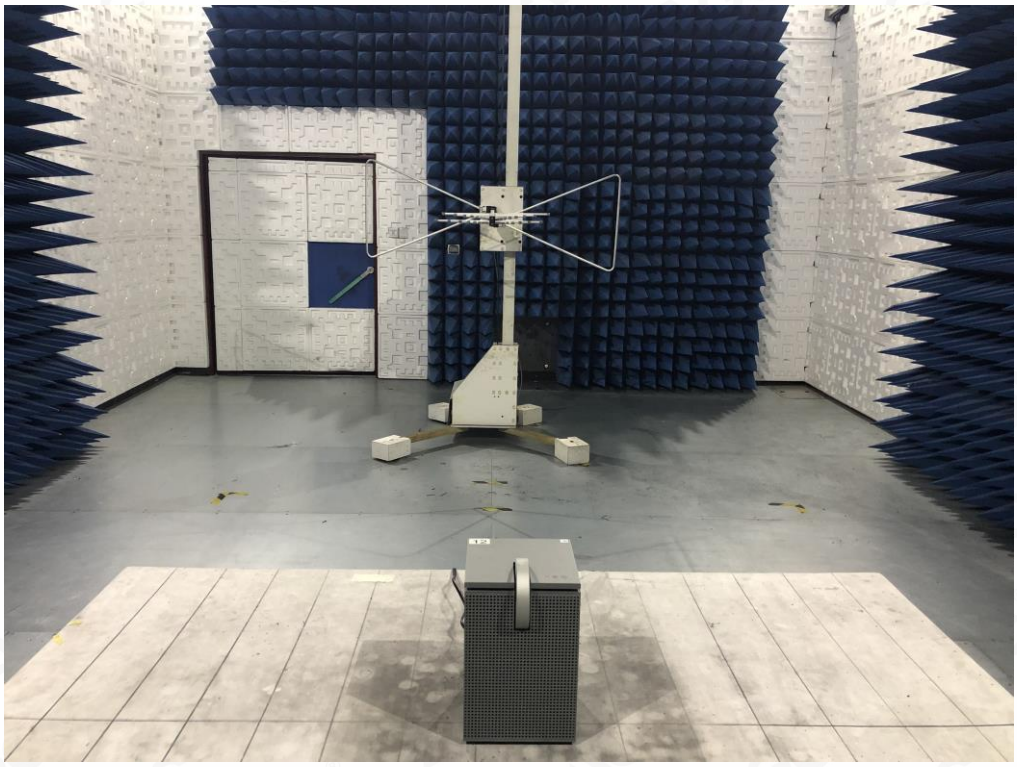
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.262000	32.80	10.9	51	18.6	AV	N	FLO
0.430000	25.10	10.6	47	22.2	AV	N	FLO
2.494000	32.00	11.5	46	14.0	AV	N	FLO
2.626000	33.90	11.5	46	12.1	AV	N	FLO
2.758000	32.60	11.5	46	13.4	AV	N	FLO
22.578000	36.90	12.6	50	13.1	AV	N	FLO

RESULT: PASS

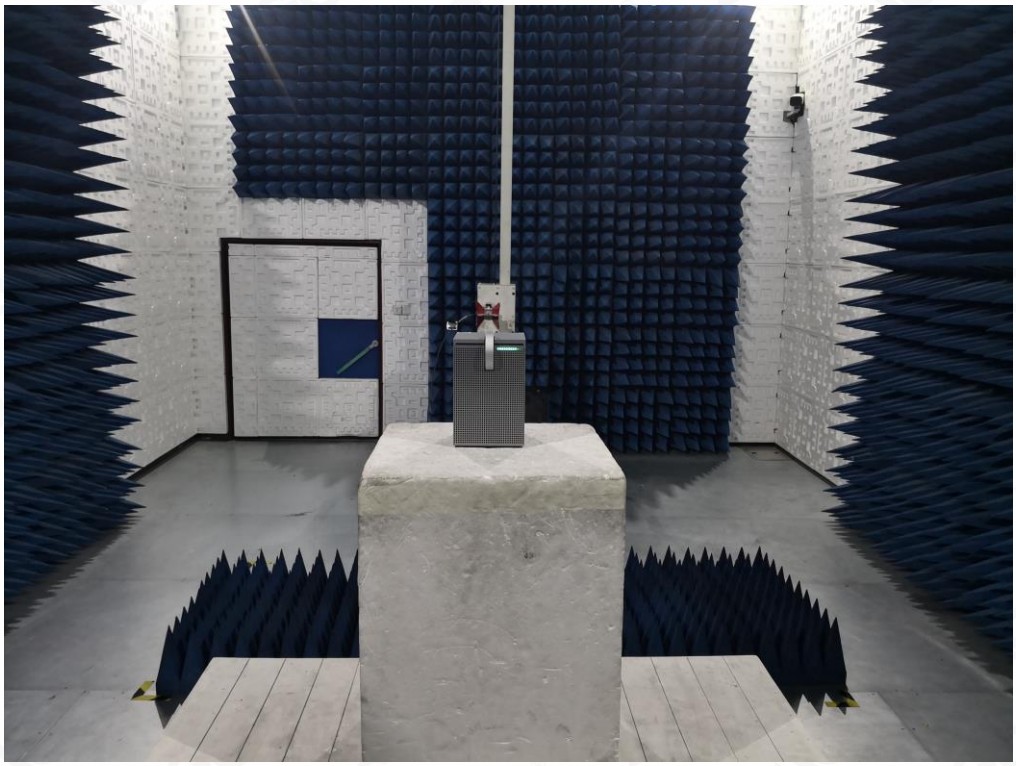
Note: All the test modes had been tested, the mode 1 was the worst case. Only the data of the worst case would be record in this test report.

APPENDIX A: PHOTOGRAPHS OF TEST SETUP

RADIATED EMISSION TEST SETUP BELOW 1GHZ



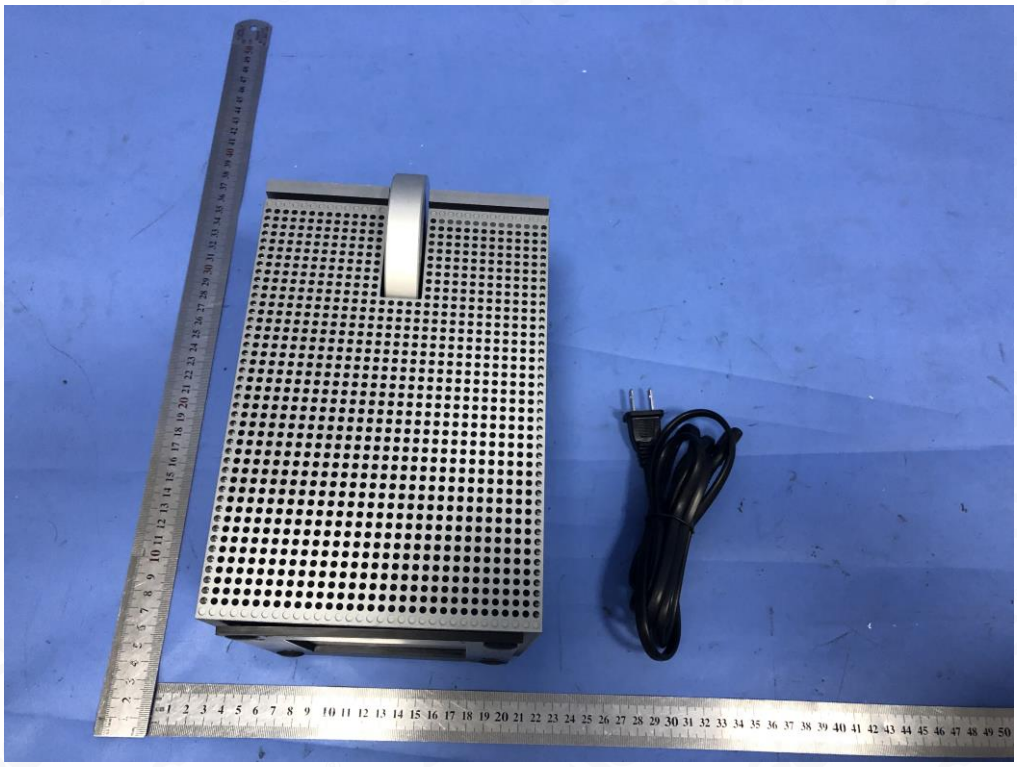
RADIATED EMISSION TEST SETUP ABOVE 1GHZ



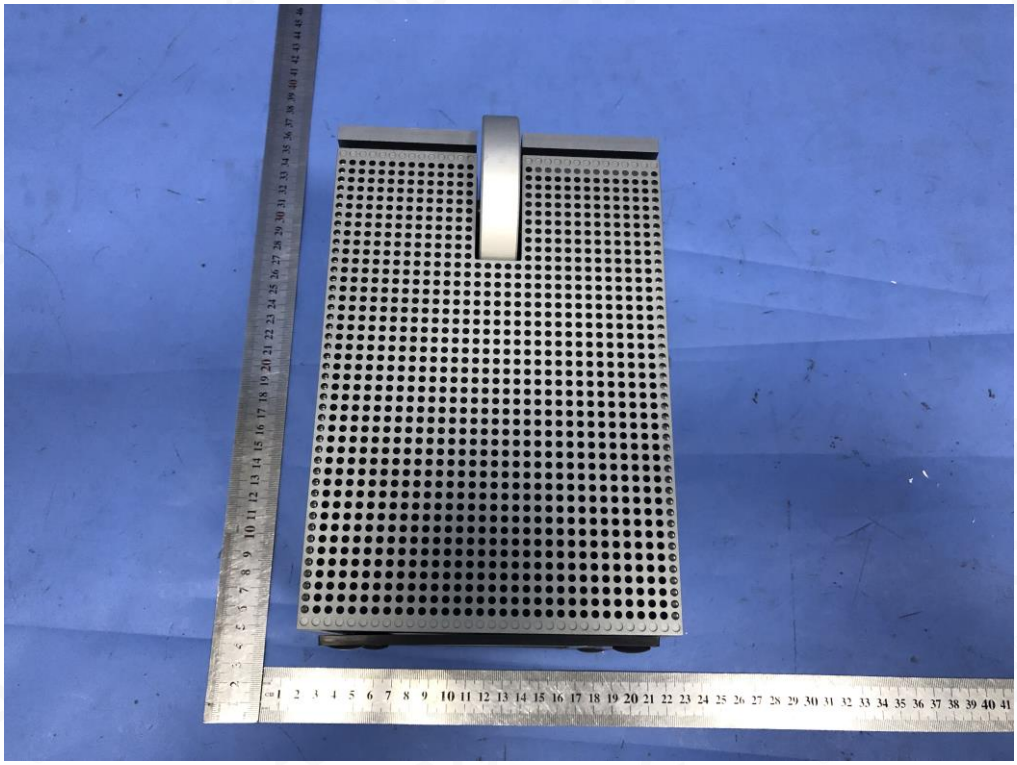
CONDUCTED EMISSION TEST SETUP

APPENDIX B: PHOTOGRAPHS OF EUT

ALL VIEW OF EUT

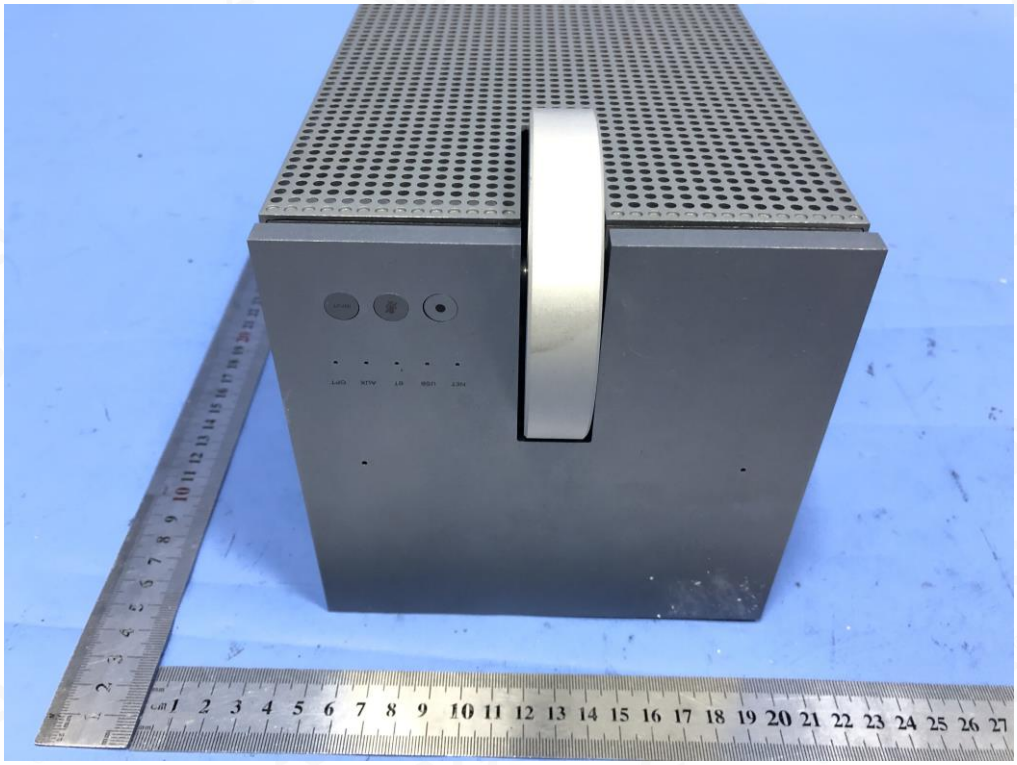


TOP VIEW OF EUT



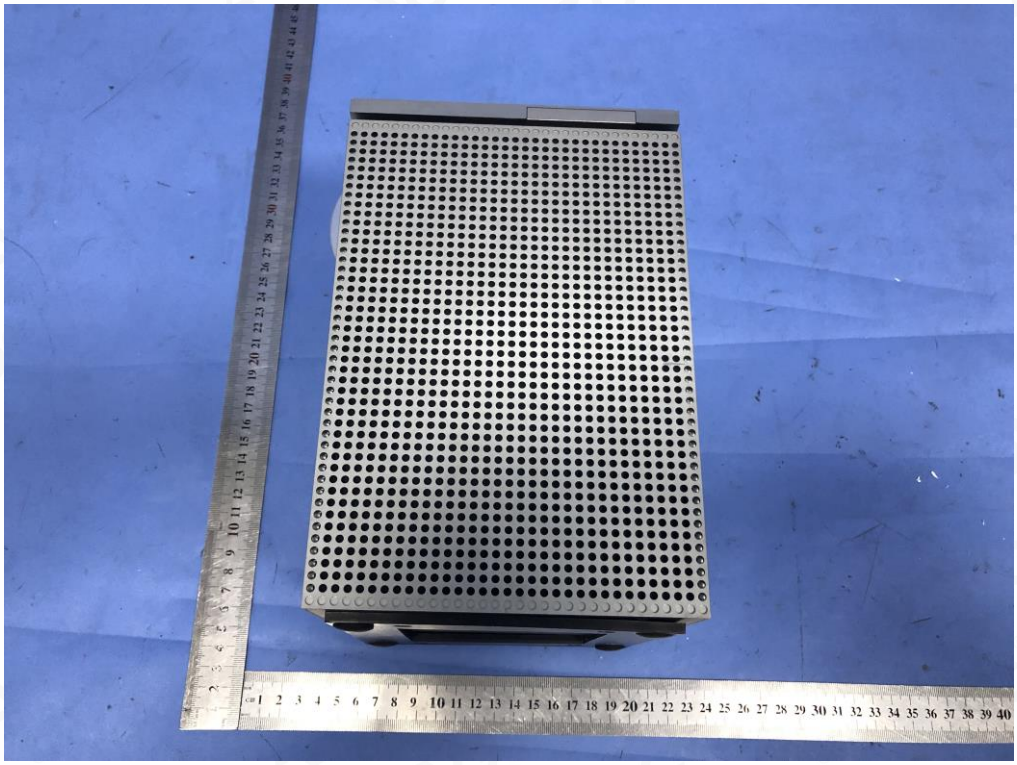
BOTTOM VIEW OF EUT

FRONT VIEW OF EUT

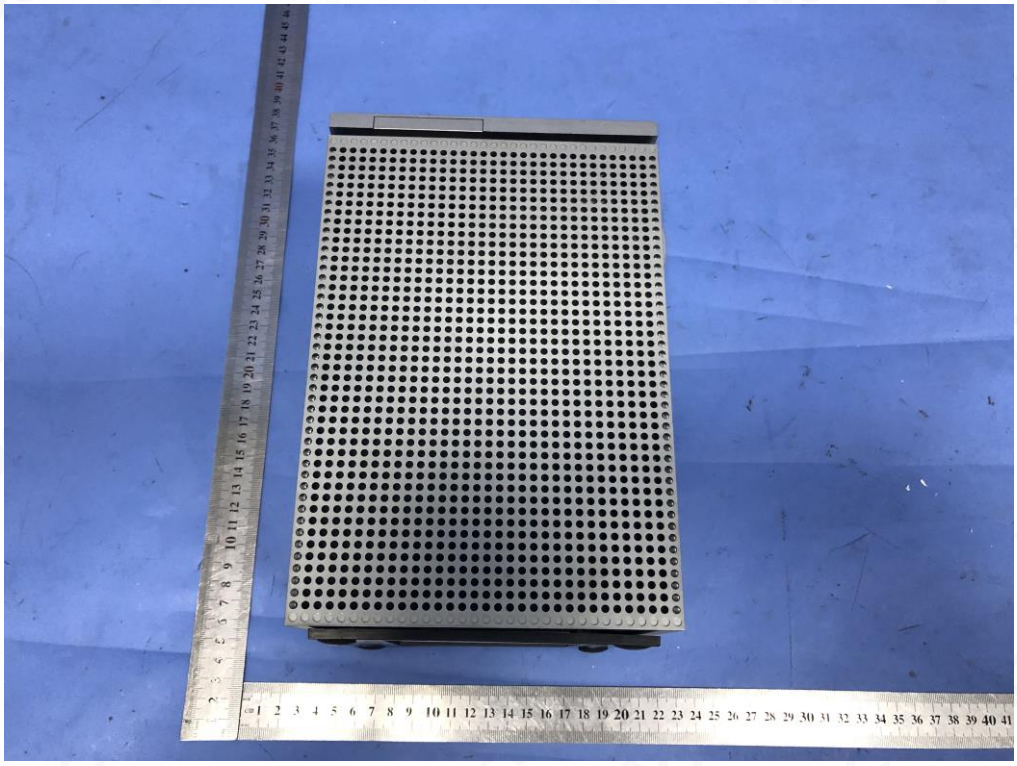


BACK VIEW OF EUT

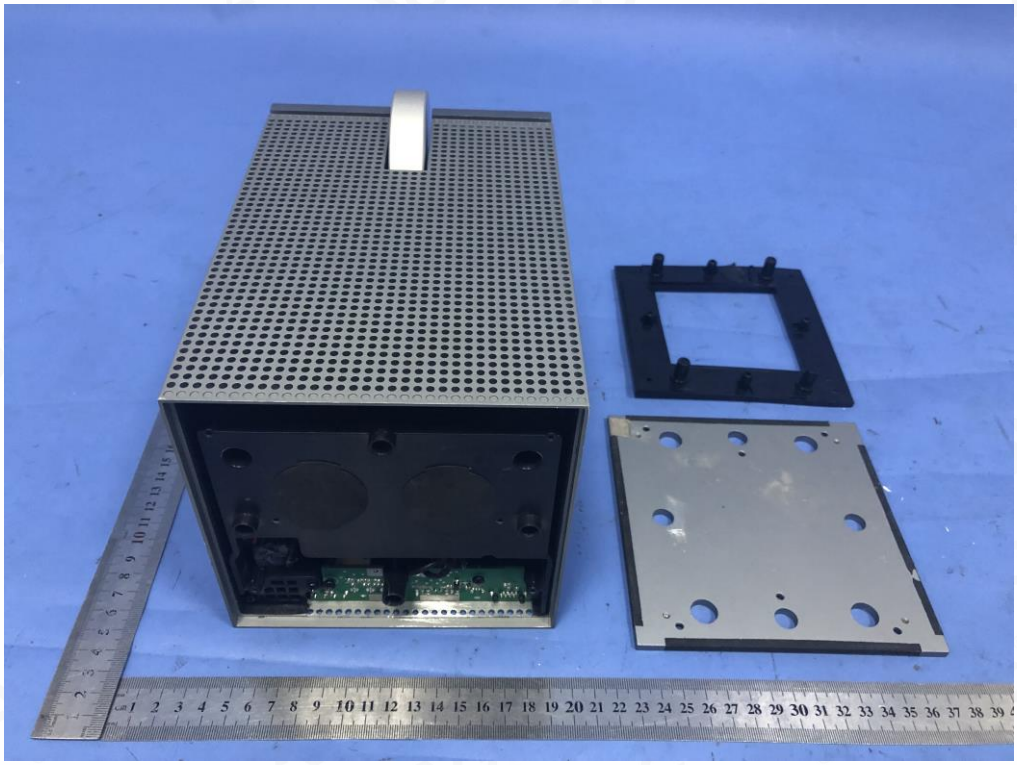
LEFT VIEW OF EUT



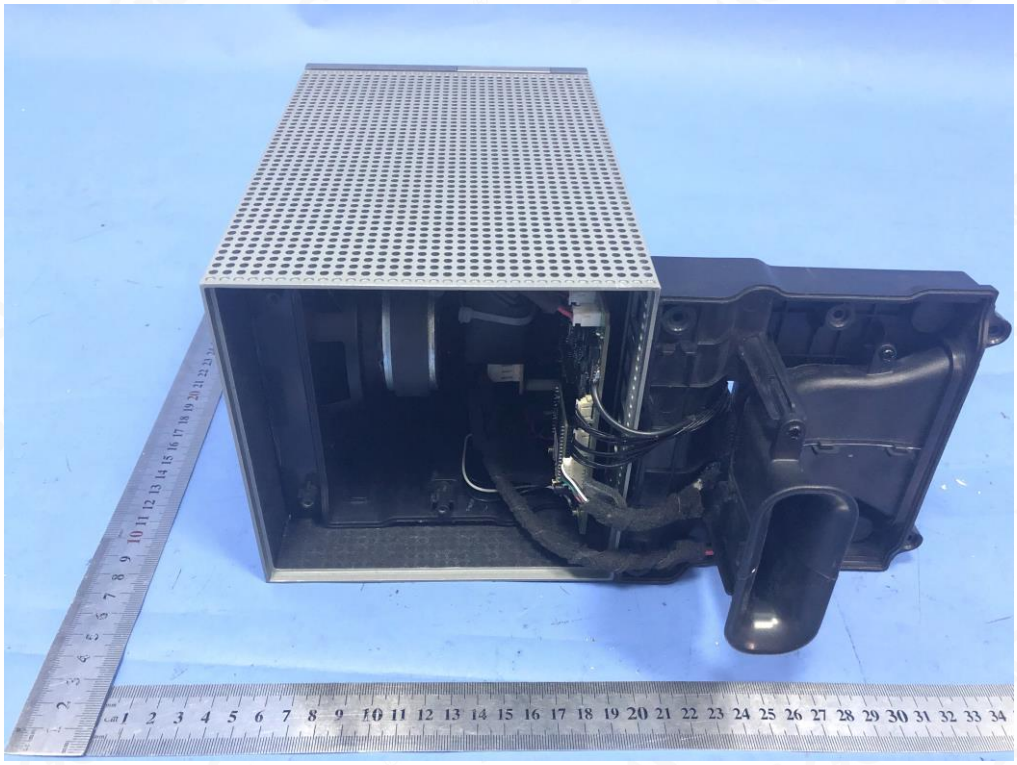
RIGHT VIEW OF EUT



OPEN VIEW -1 OF EUT

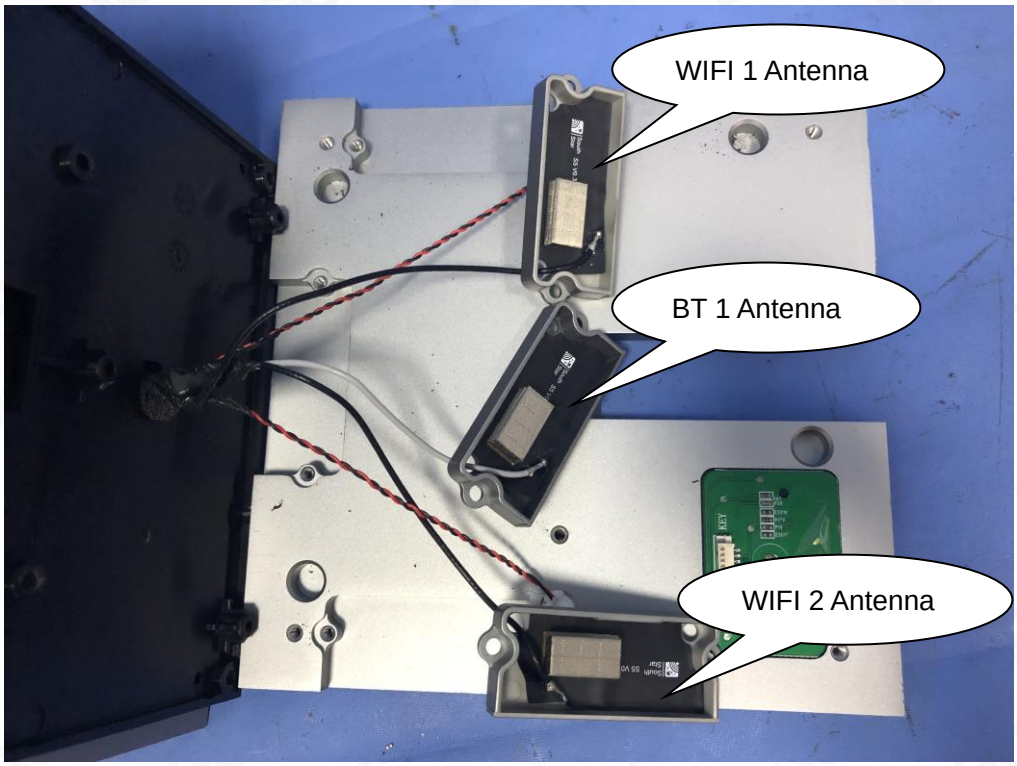


OPEN VIEW -2 OF EUT

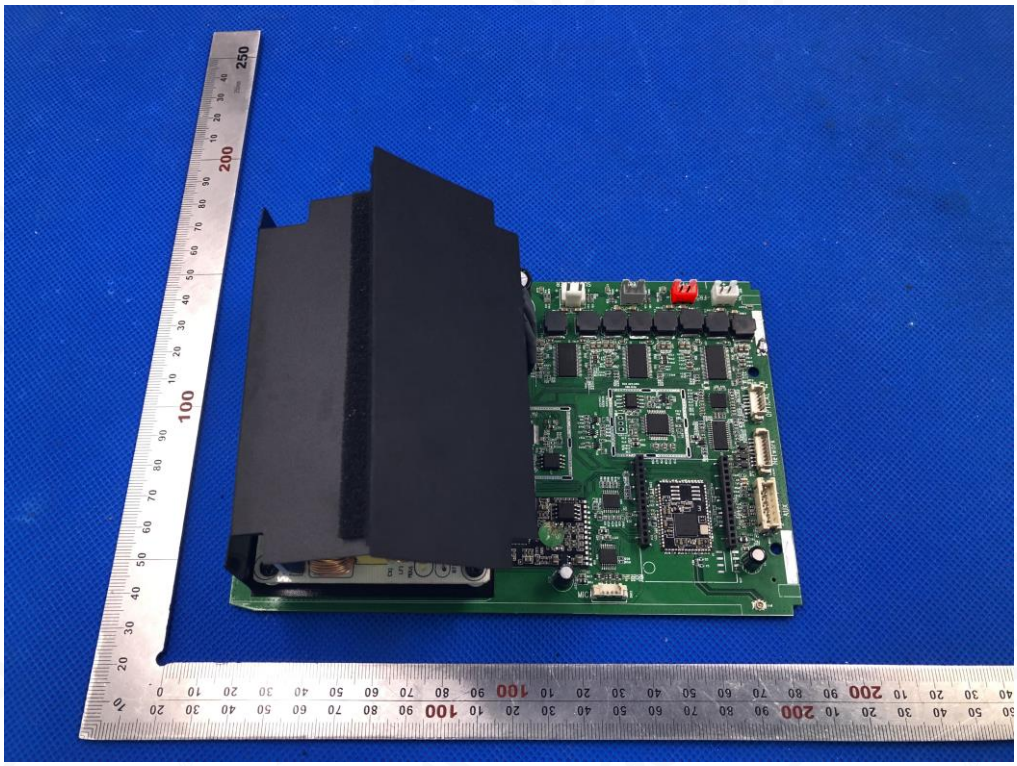


OPEN VIEW -3 OF EUT

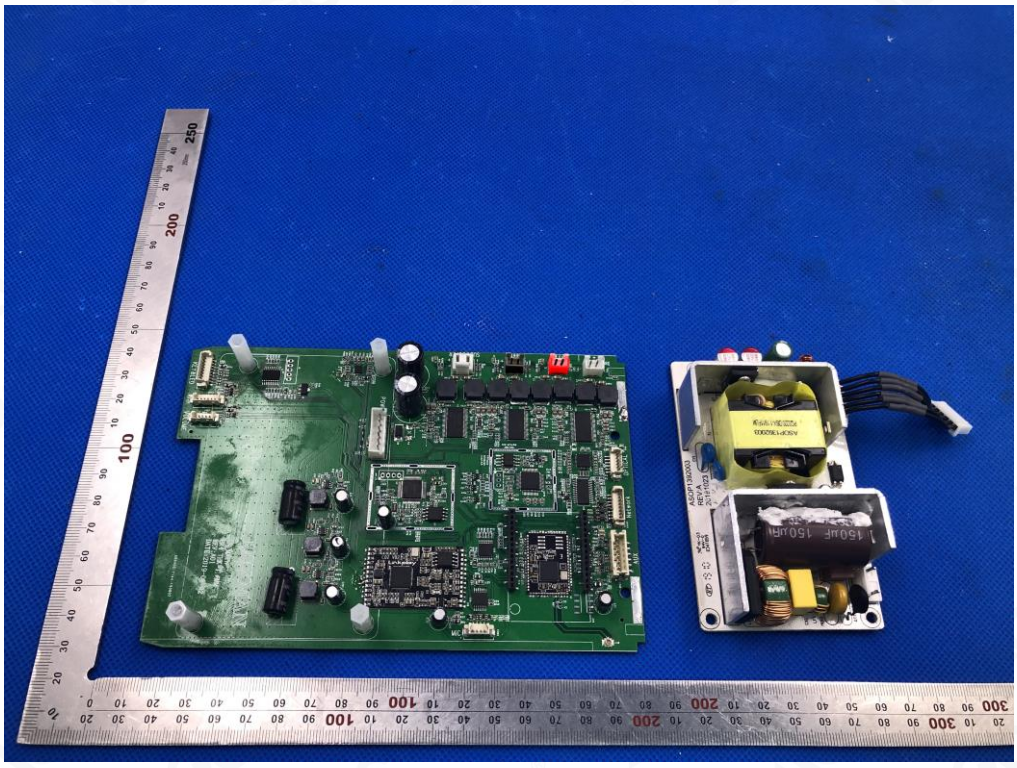
INTERNAL VIEW-1 OF EUT



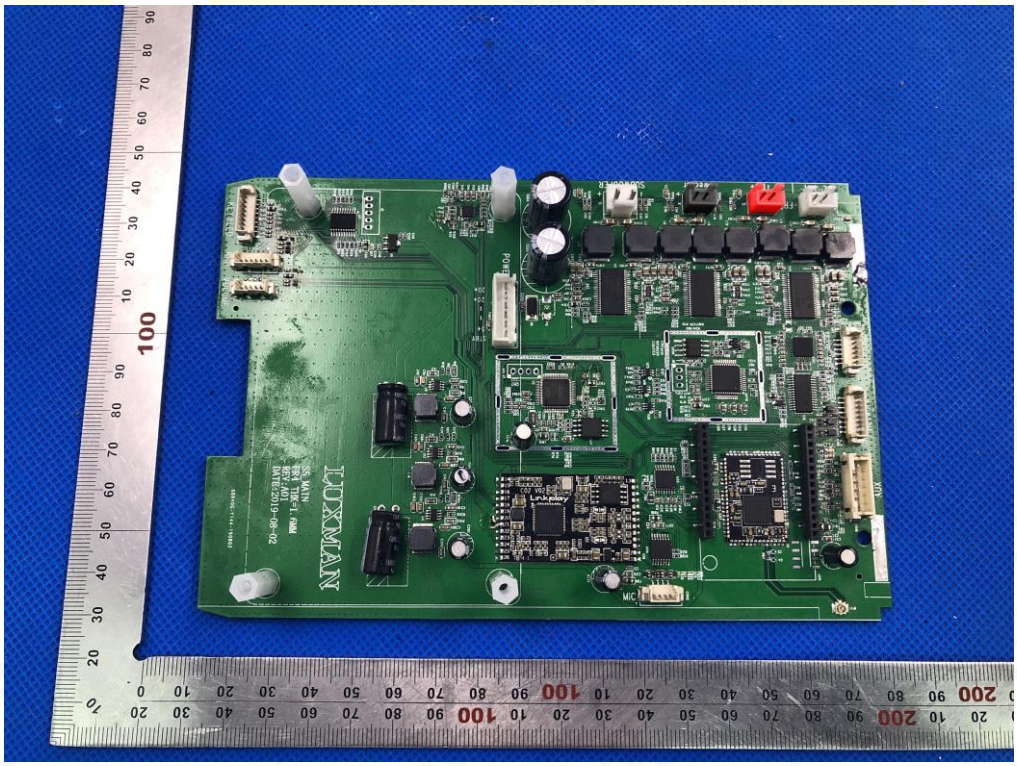
INTERNAL VIEW-2 OF EUT



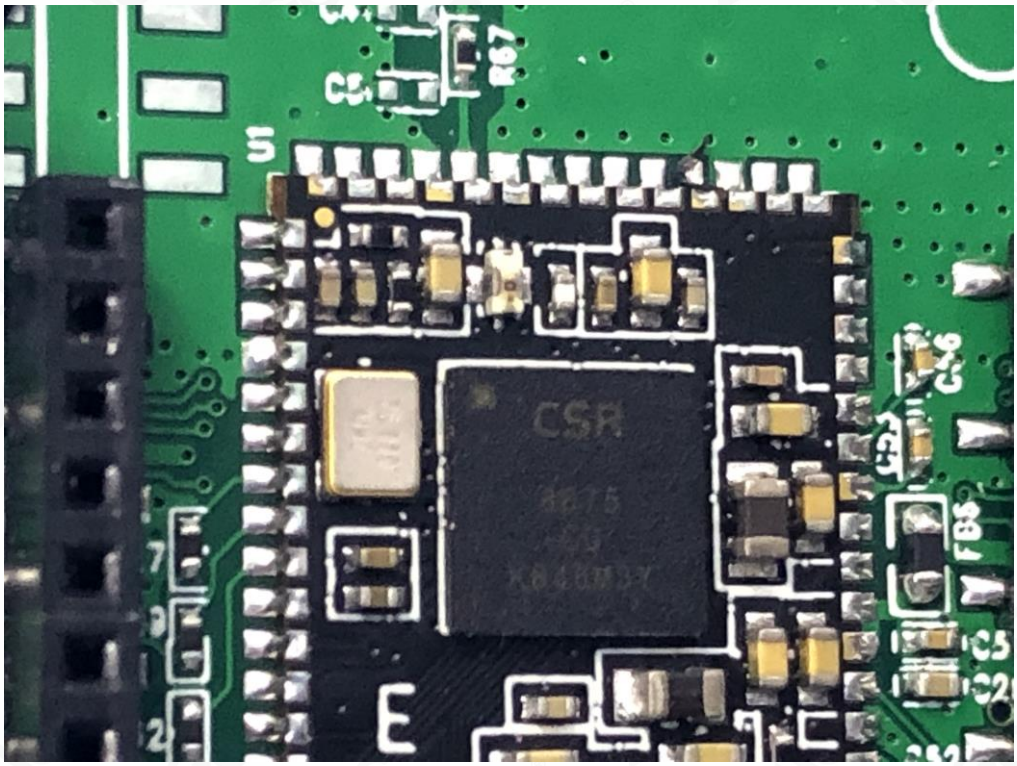
INTERNAL VIEW-3 OF EUT



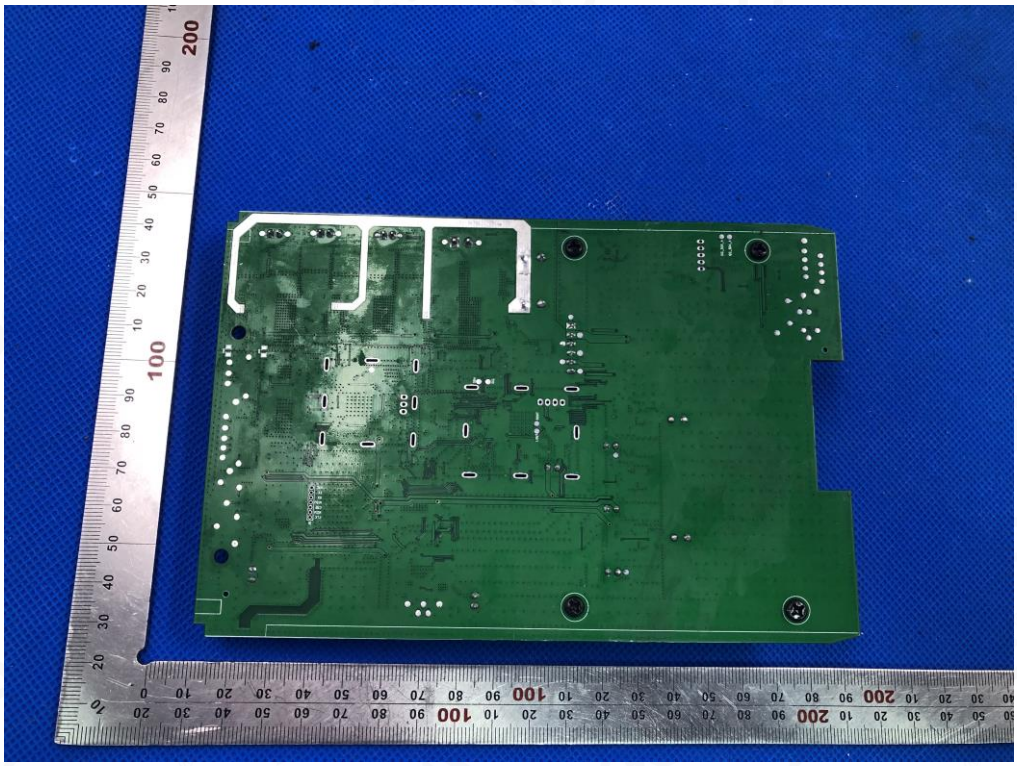
INTERNAL VIEW-4 OF EUT



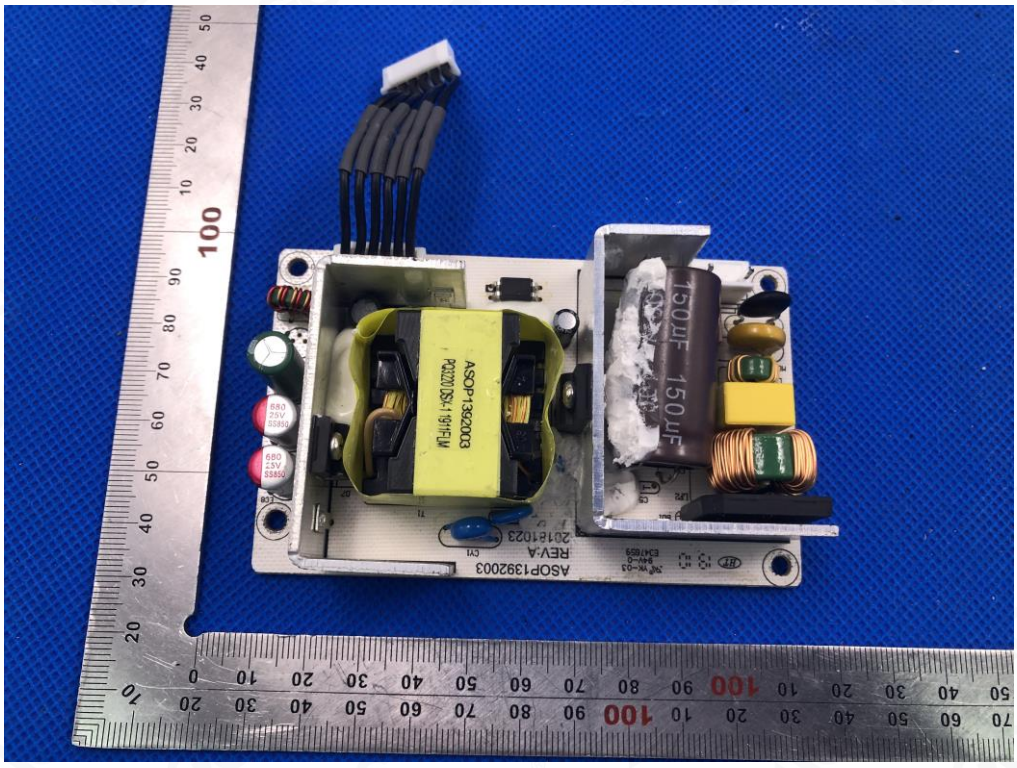
INTERNAL VIEW-5 OF EUT



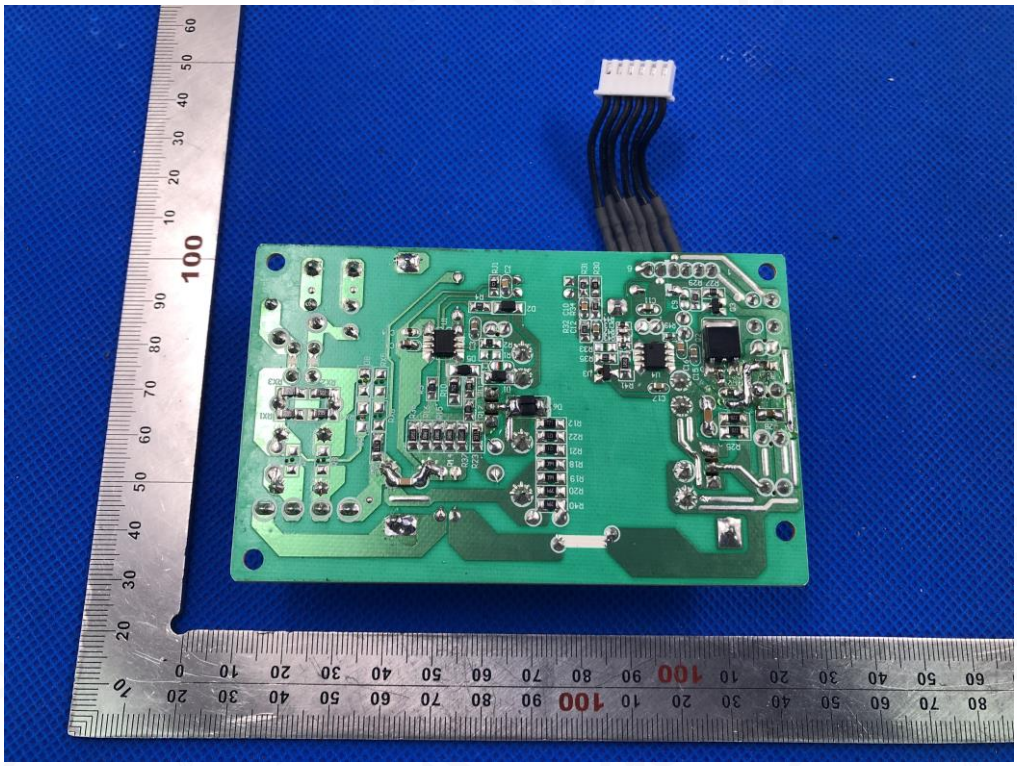
INTERNAL VIEW-6 OF EUT



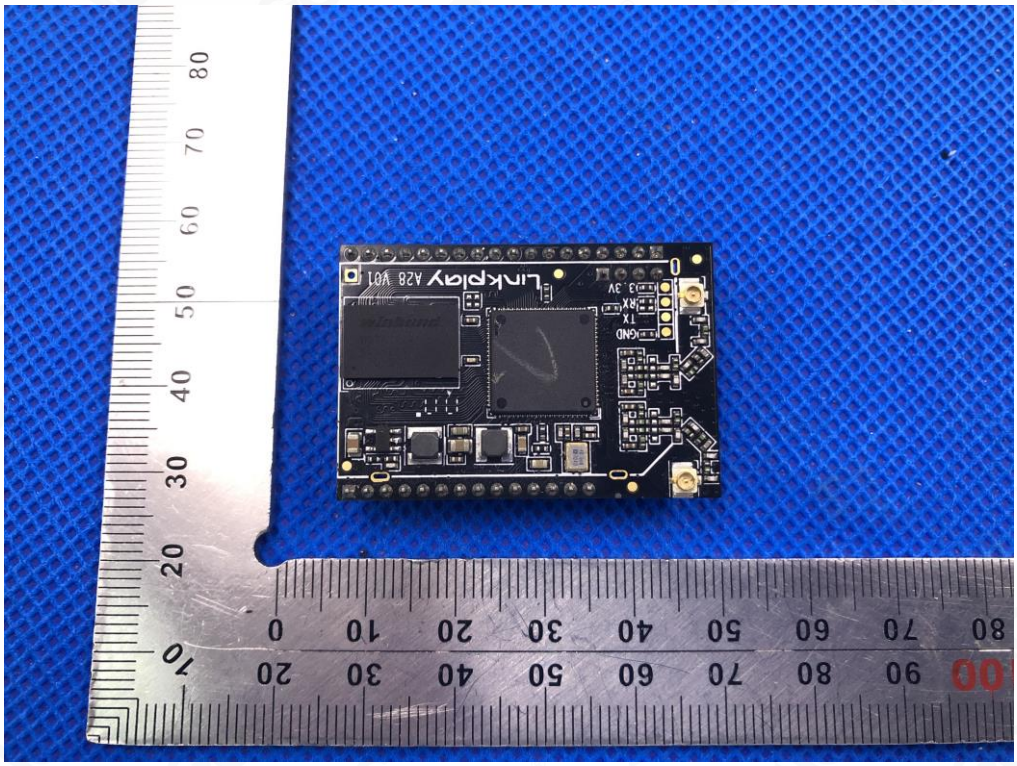
INTERNAL VIEW-7 OF EUT



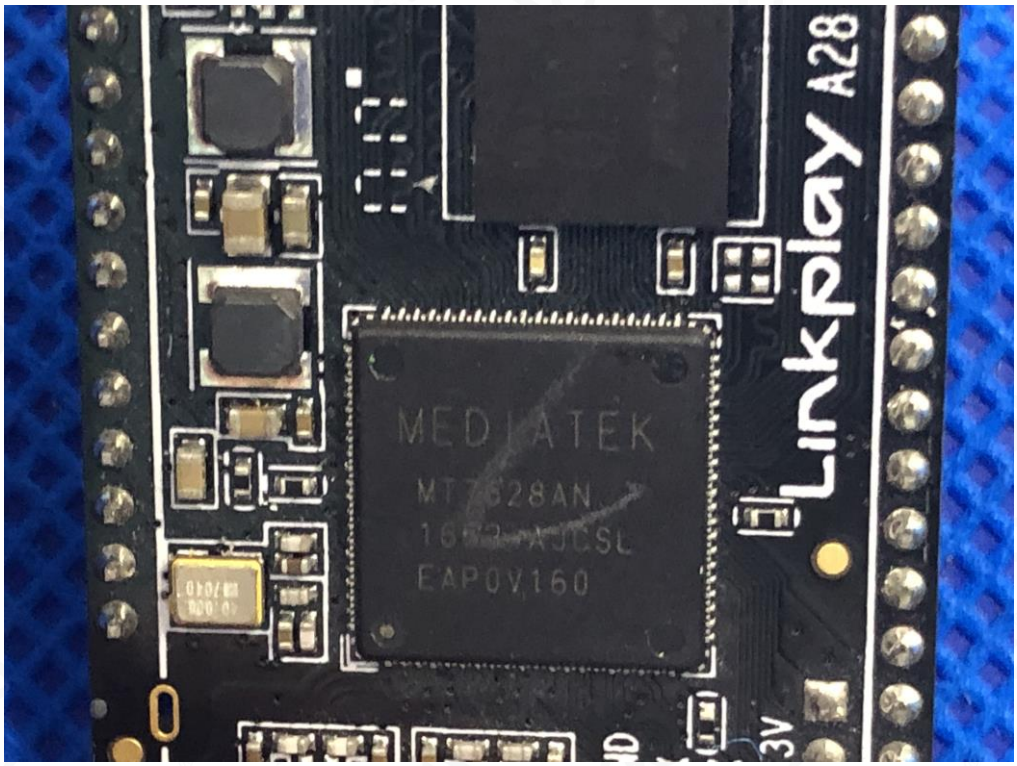
INTERNAL VIEW-8 OF EUT



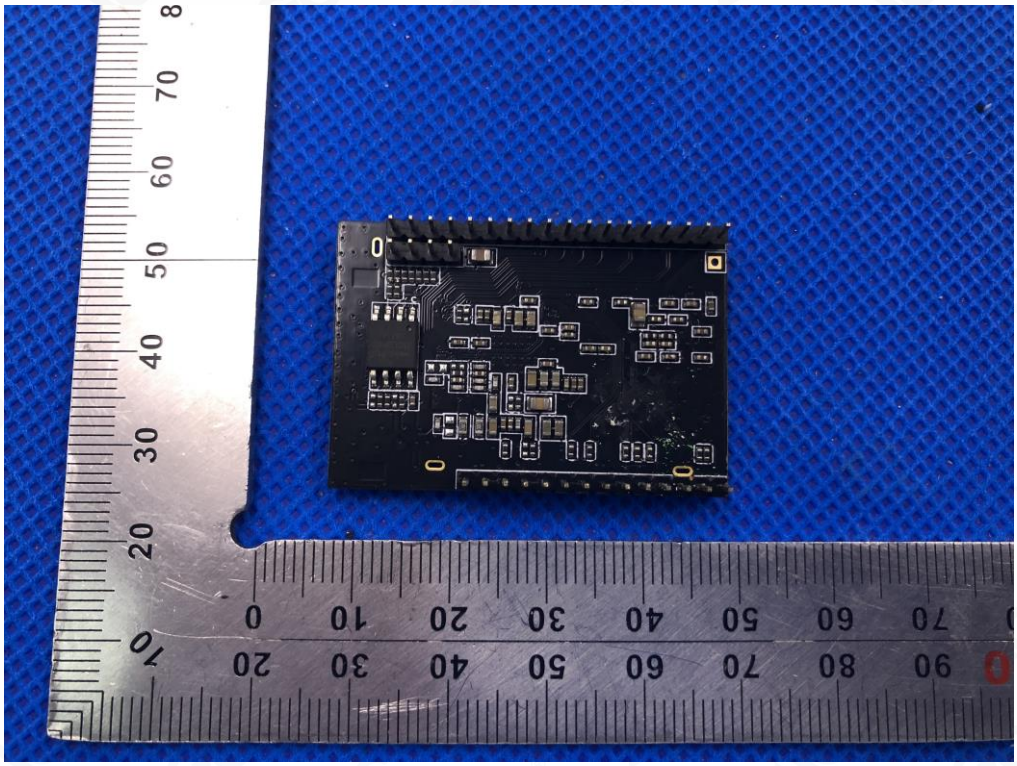
INTERNAL VIEW-9 OF EUT



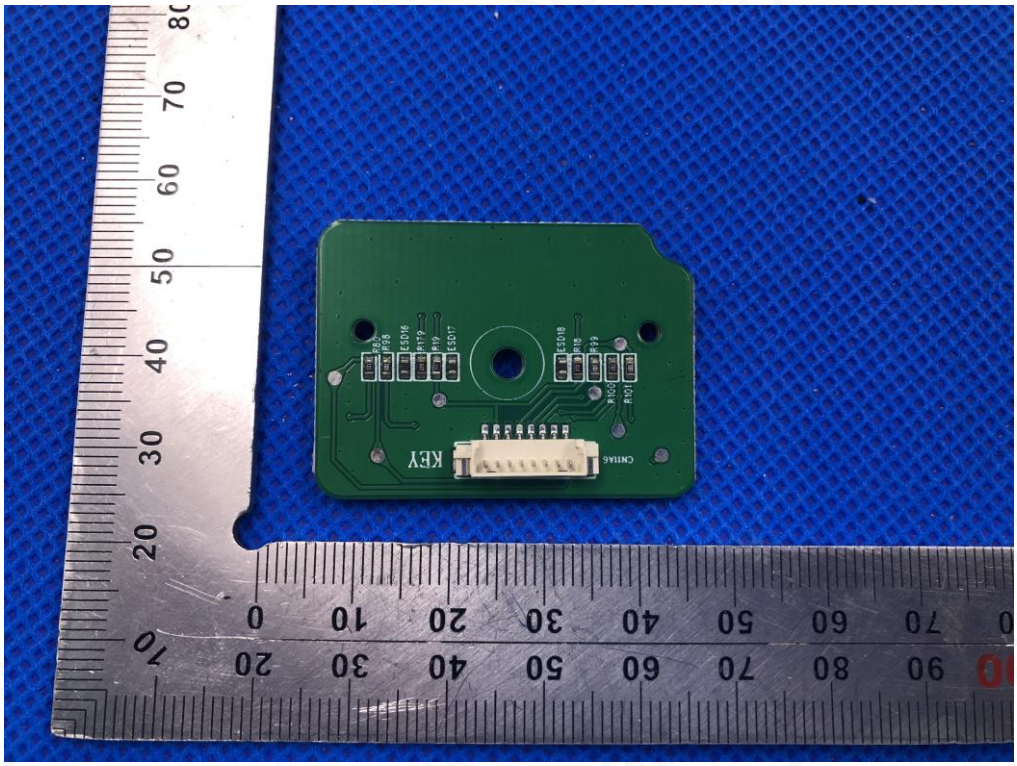
INTERNAL VIEW-10 OF EUT



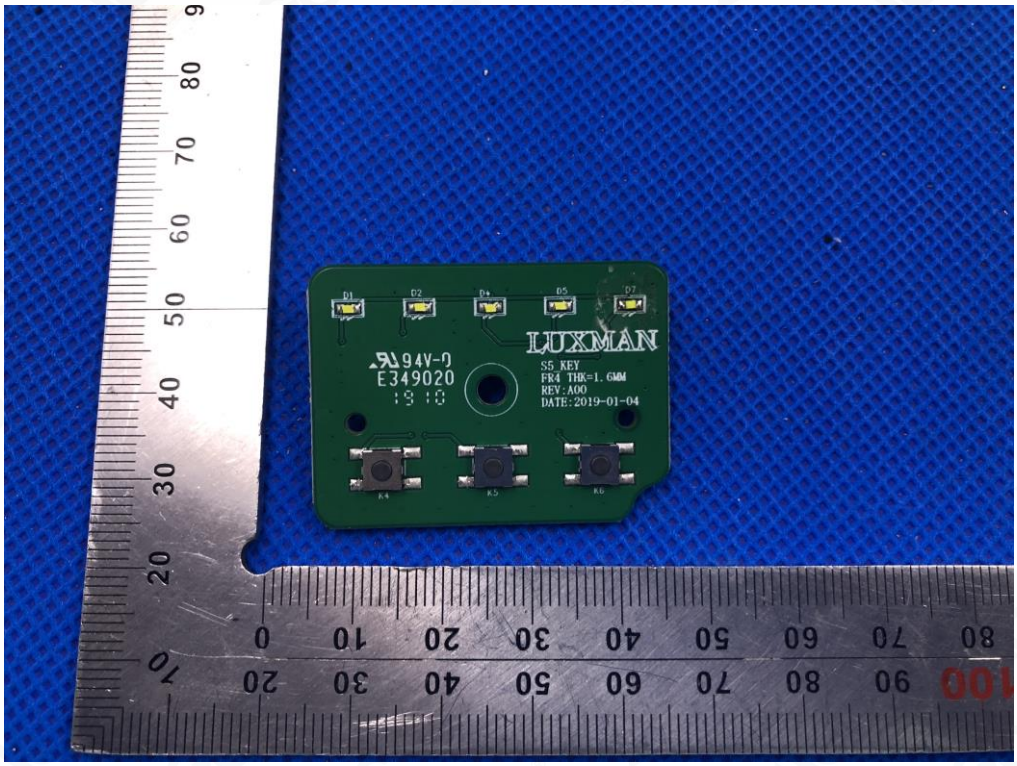
INTERNAL VIEW-11 OF EUT



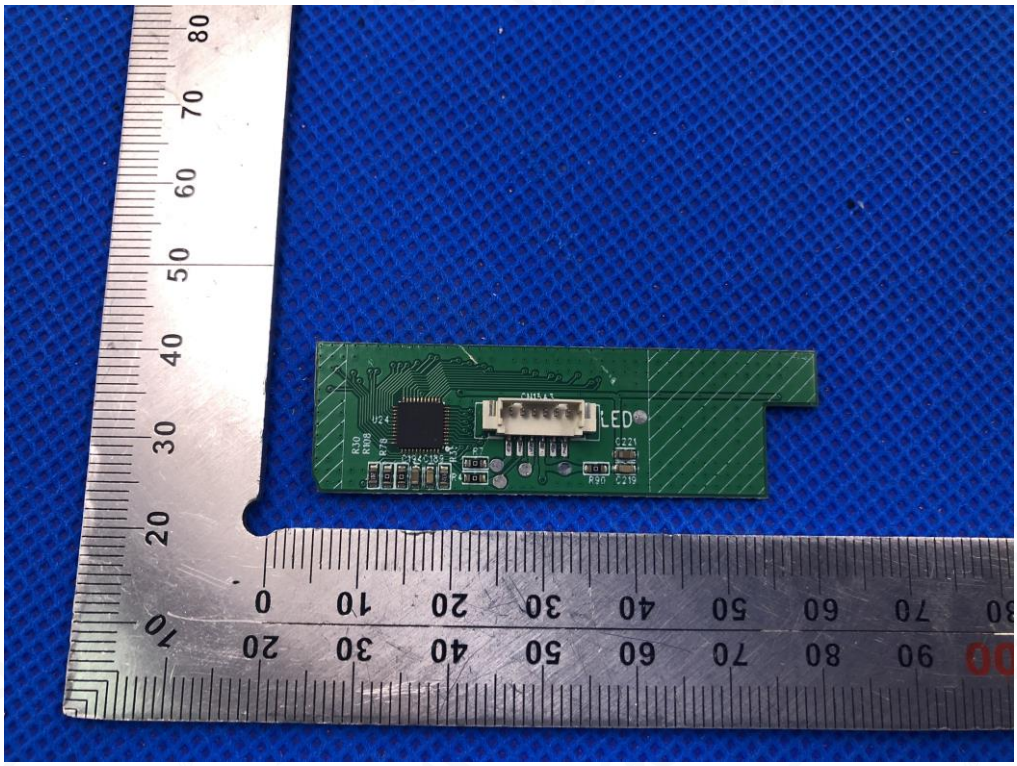
INTERNAL VIEW-12 OF EUT



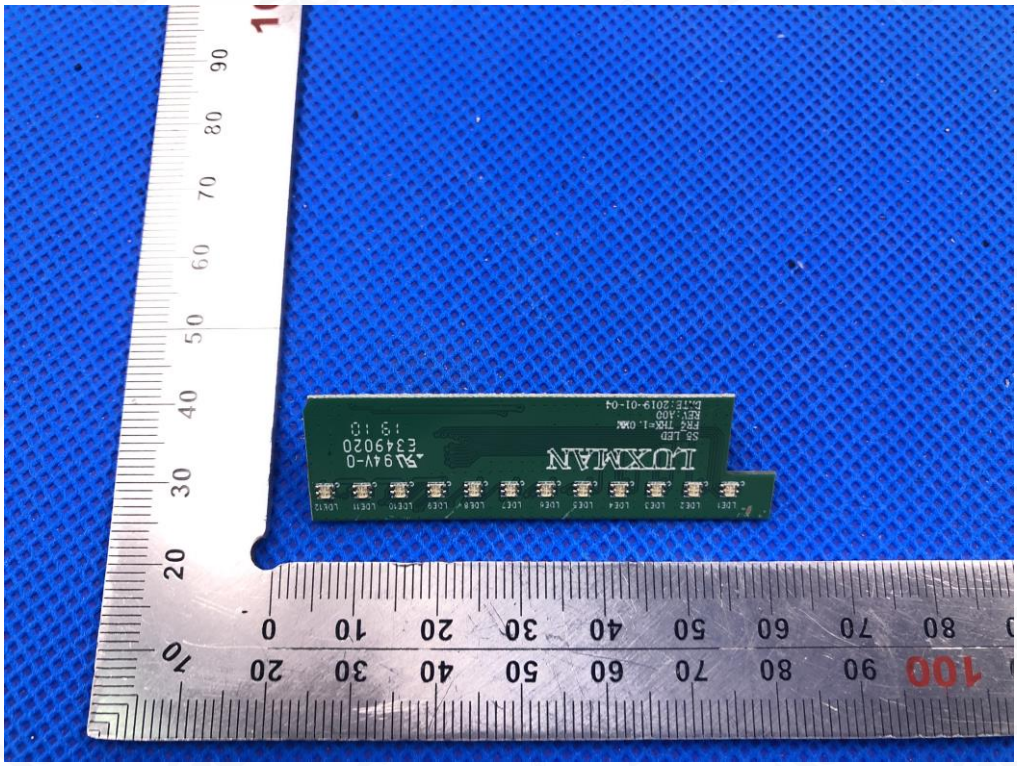
INTERNAL VIEW-13 OF EUT



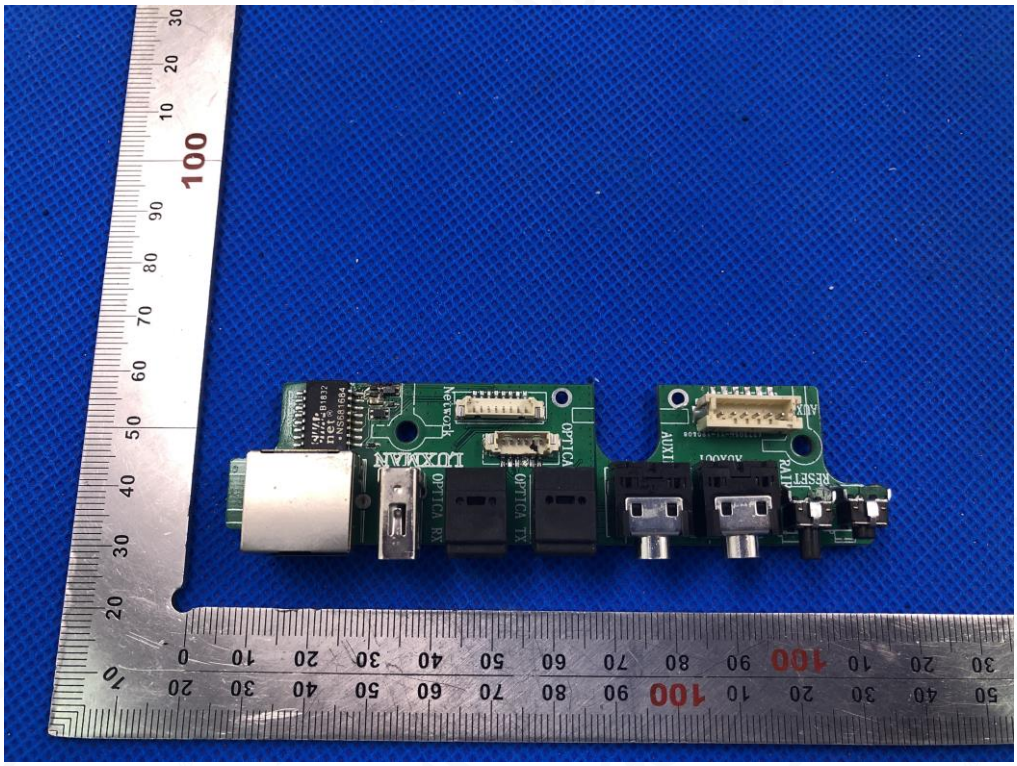
INTERNAL VIEW-14 OF EUT



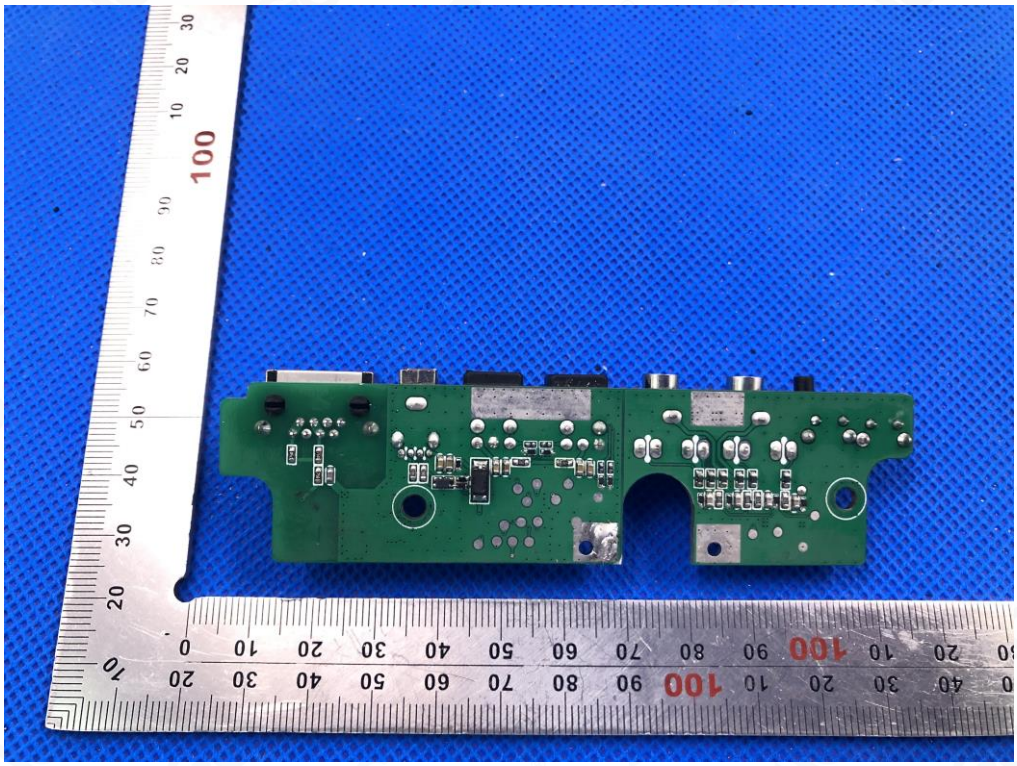
INTERNAL VIEW-15 OF EUT



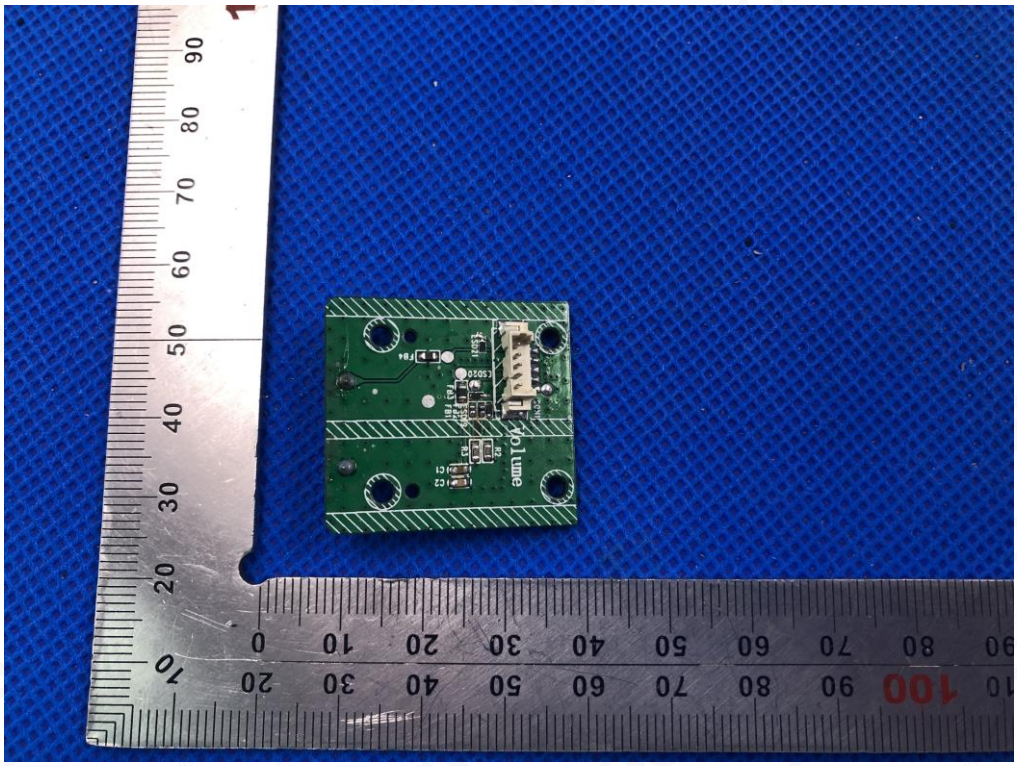
INTERNAL VIEW-16 OF EUT



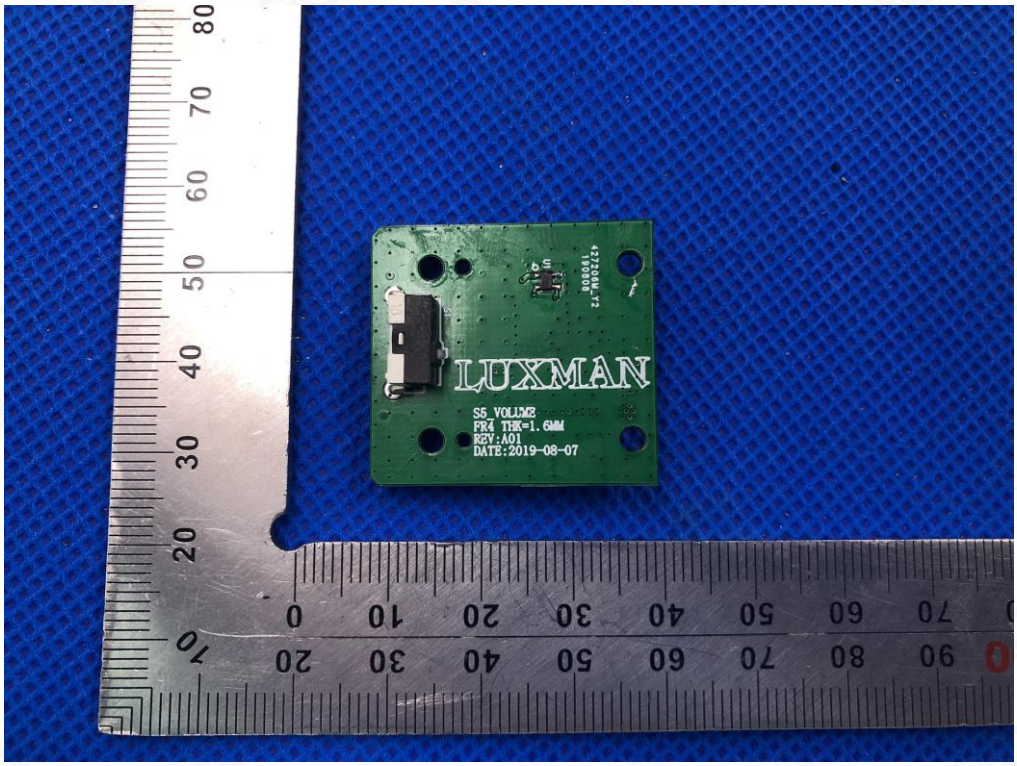
INTERNAL VIEW-17 OF EUT



INTERNAL VIEW-18 OF EUT



INTERNAL VIEW-19 OF EUT



----END OF REPORT----