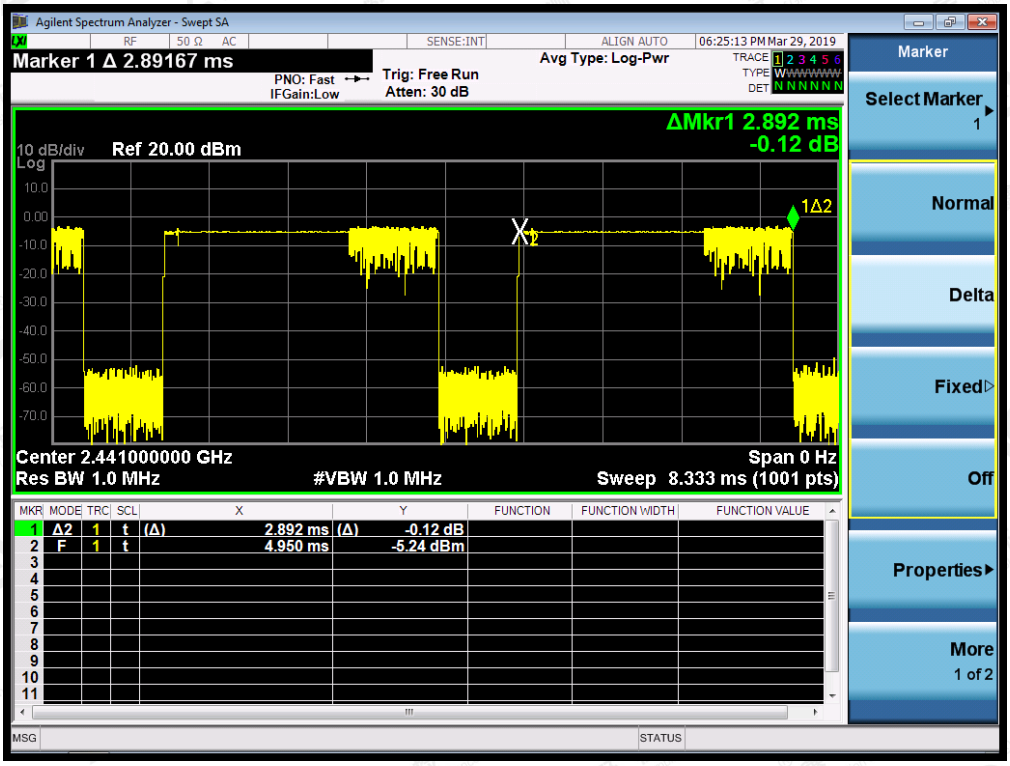
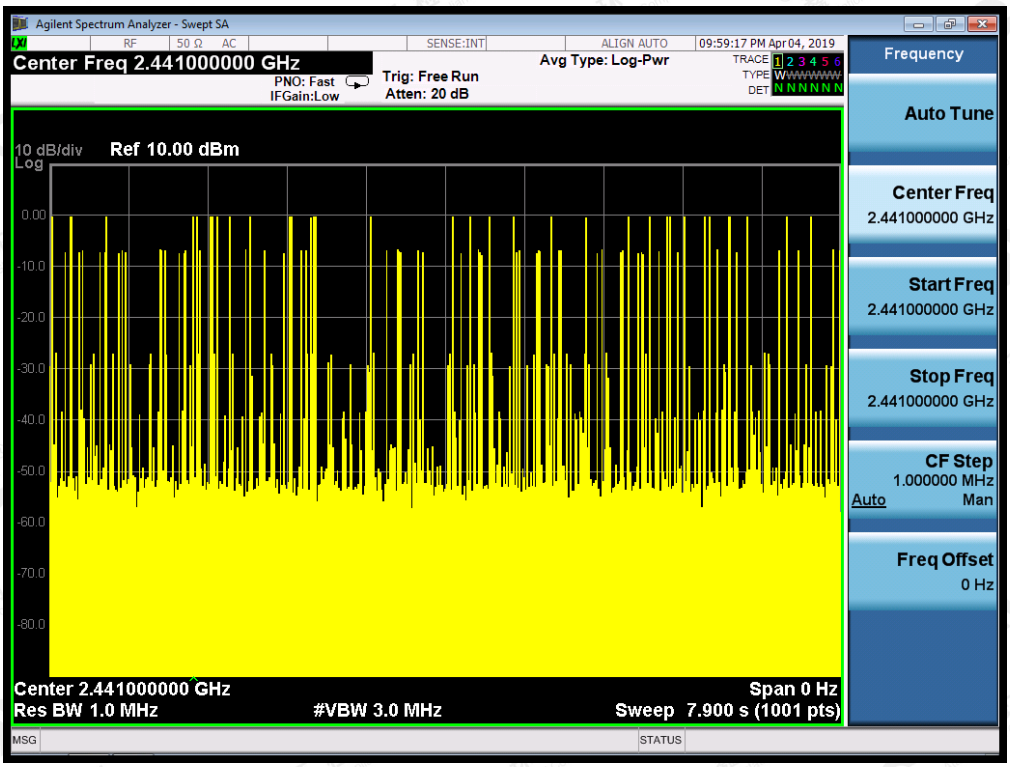
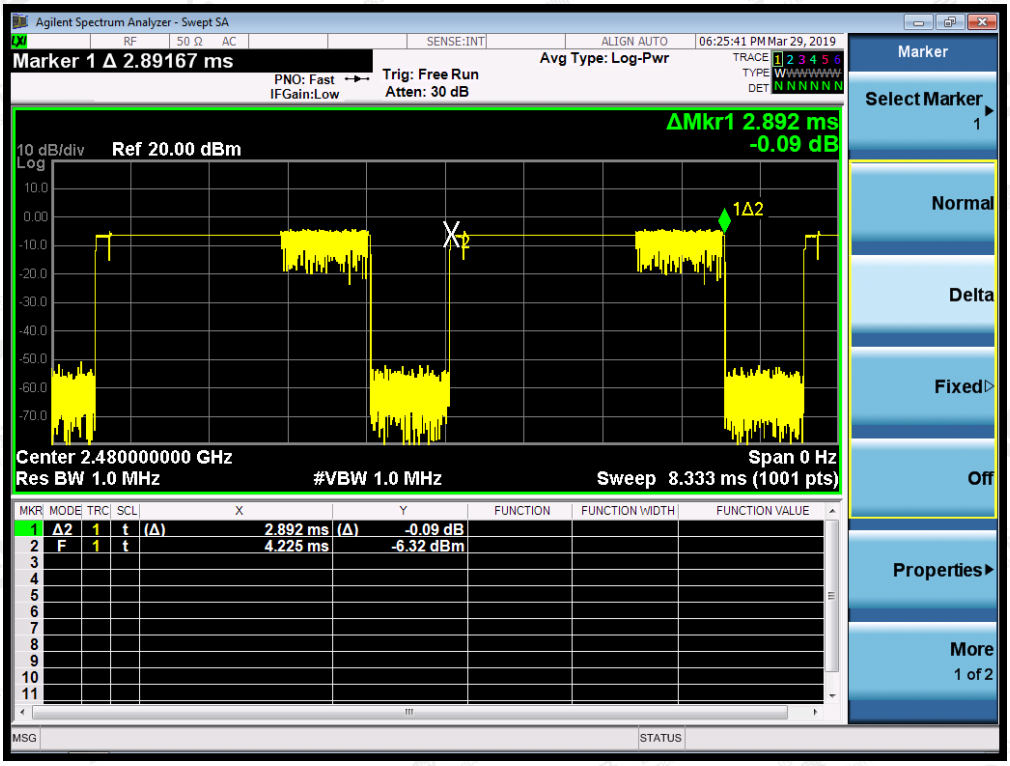
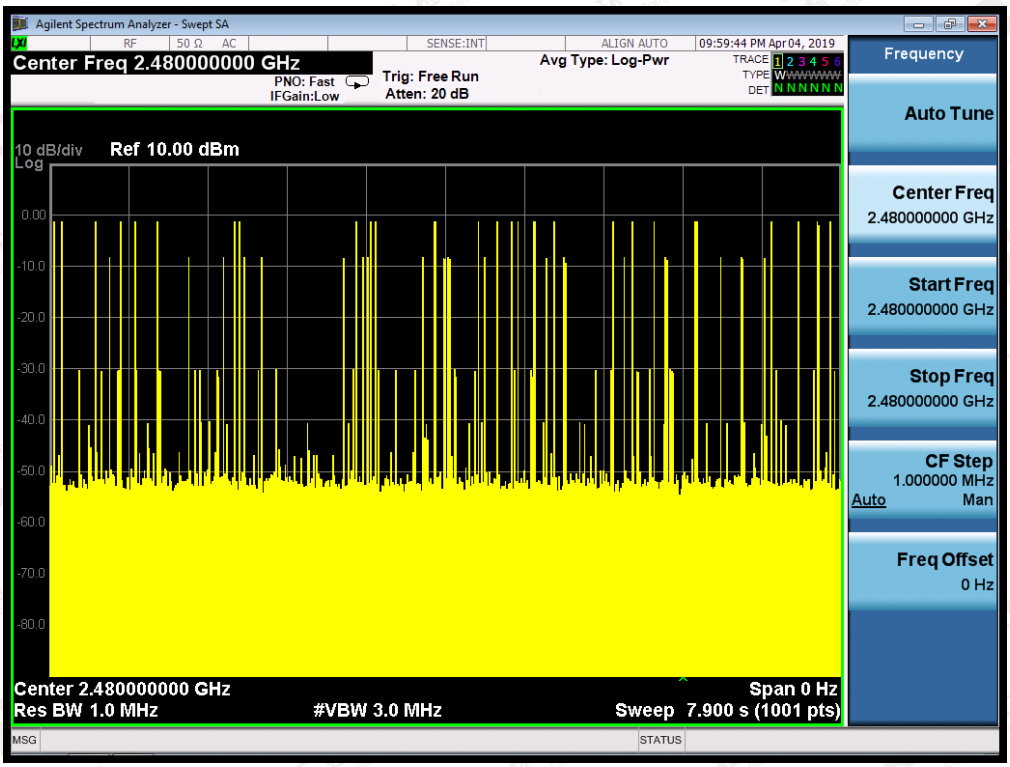
TEST PLOT OF MIDDLE CHANNEL





TEST PLOT OF HIGH CHANNEL





13. FREQUENCY SEPARATION

13.1. MEASUREMENT PROCEDURE

The EUT shall have its hopping function enabled. Use the following spectrum analyzer settings:
1. Span: Wide enough to capture the peaks of two adjacent channels.
2. RBW: Start with the RBW set to approximately 30% of the channel spacing; adjust as necessary to best identify the center of each individual channel.
3. Video (or average) bandwidth (VBW) ≥ RBW.
4. Sweep: Auto. e) Detector function: Peak. f) Trace: Max hold. g) Allow the trace to stabilize.
Use the marker-delta function to determine the separation between the peaks of the adjacent channels.

13.2. TEST SETUP (BLOCK DIAGRAM OF CONFIGURATION)

Same as described in section 6.2

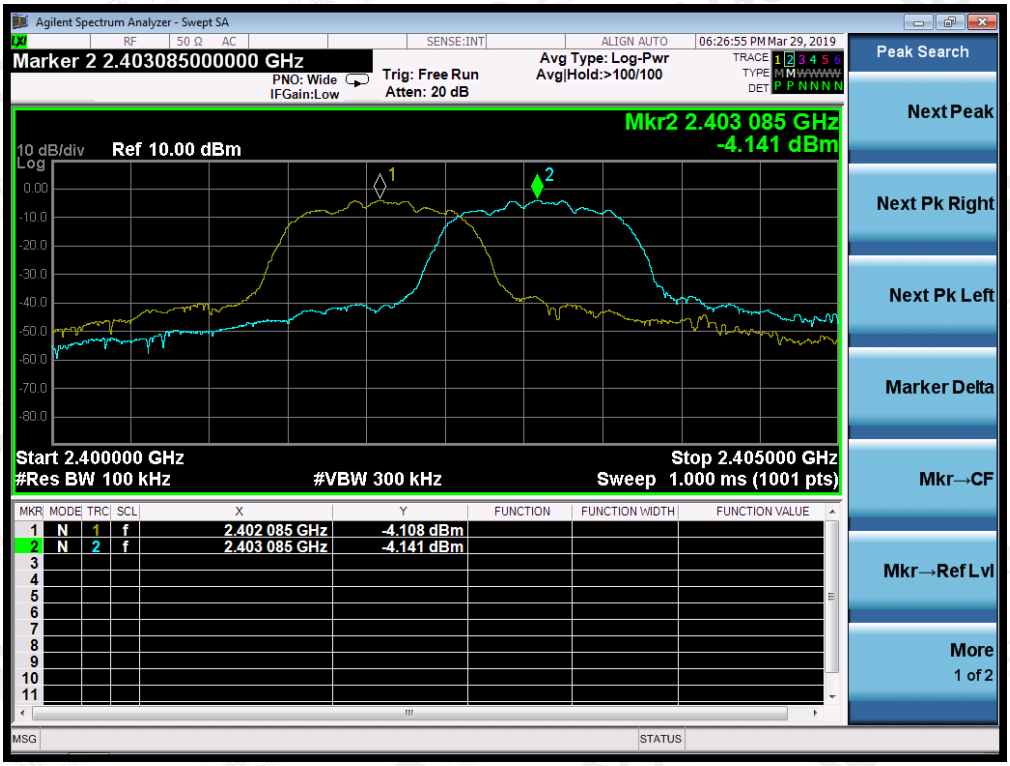
13.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6.3

13.4. LIMITS AND MEASUREMENT RESULT

CHANNEL	CHANNEL SEPARATION	LIMIT	RESULT
	KHz	KHz	Pass
CH01-CH02	1000	>=25 KHz or 2/3 20 dB BW	

TEST PLOT FOR FREQUENCY SEPARATION



Note: The 8-DPSK modulation is the worst case and recorded in the report.

14. FCC LINE CONDUCTED EMISSION TEST

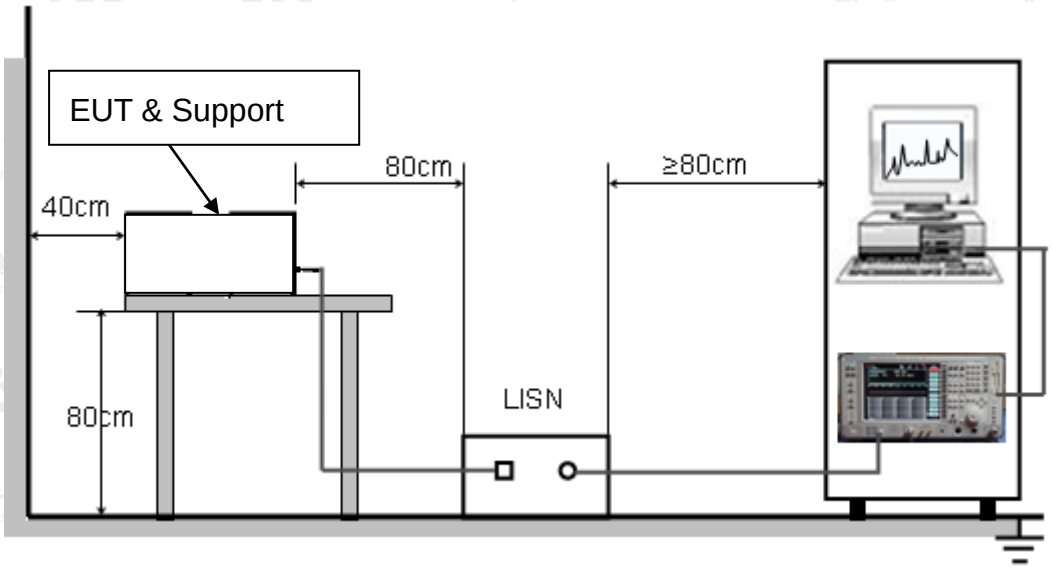
14.1. LIMITS OF LINE CONDUCTED EMISSION TEST

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 15V power from adapter which received AC120V/60Hz power from 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.

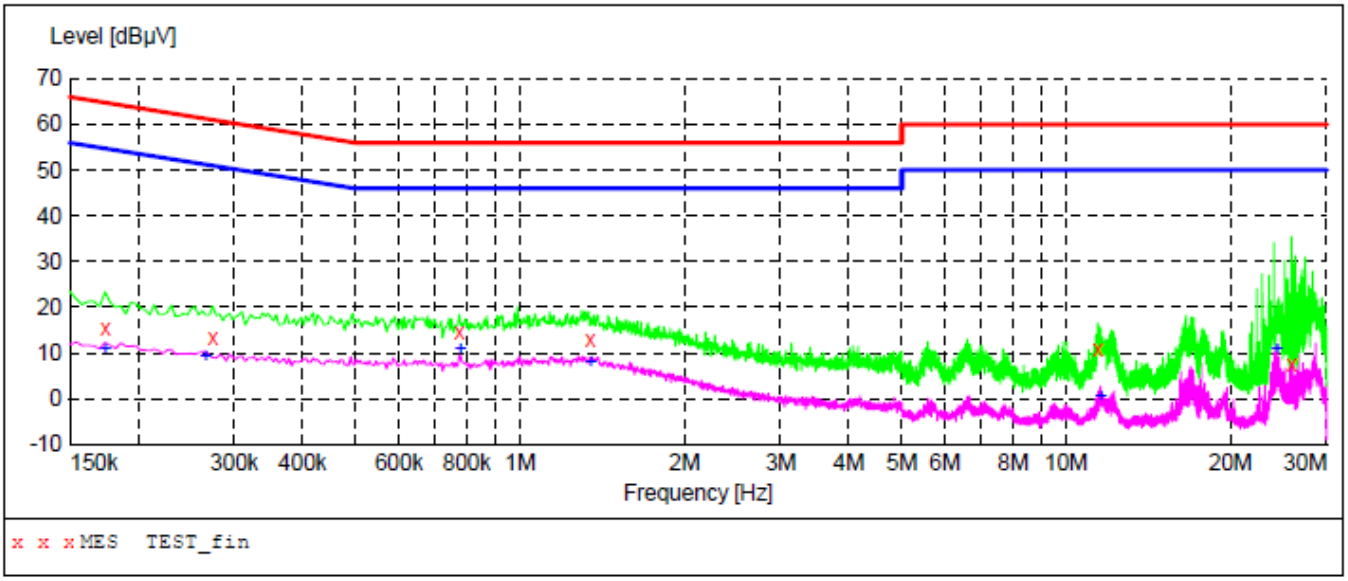
14.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

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

Adapter 1

Line Conducted Emission Test Line 1-L



MEASUREMENT RESULT: "TEST_fin"

3/22/2019 9:40AM

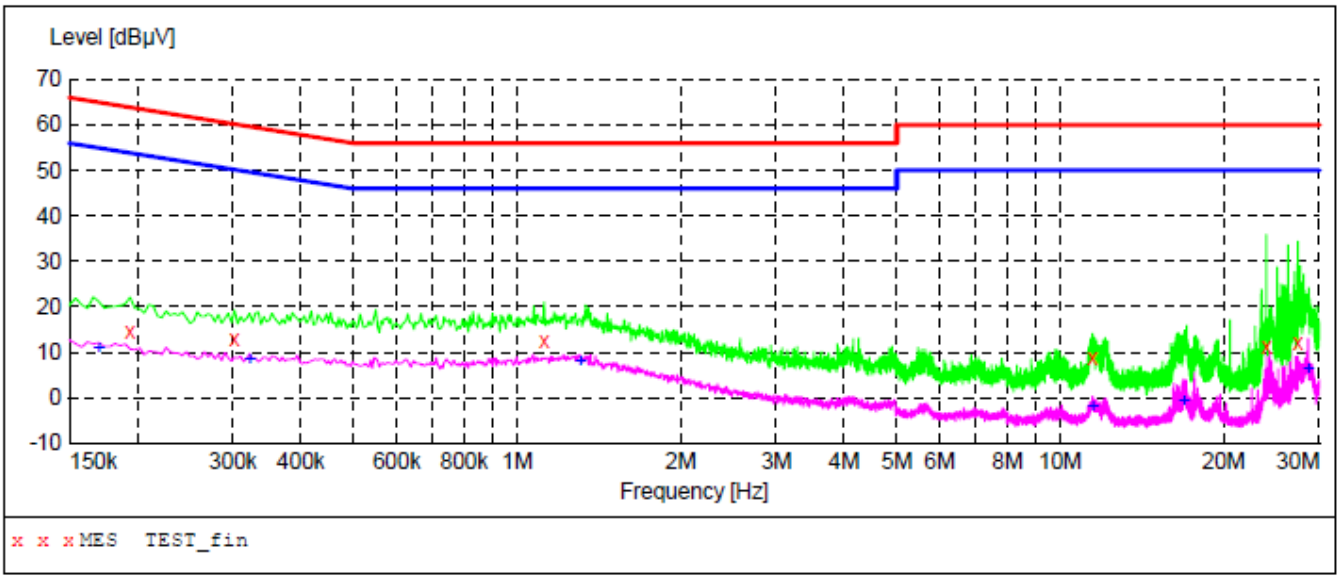
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.174000	15.50	10.3	65	49.3	QP	L1	FLO
0.274000	13.30	10.2	61	47.7	QP	L1	FLO
0.774000	14.50	10.3	56	41.5	QP	L1	FLO
1.346000	13.10	10.4	56	42.9	QP	L1	FLO
11.418000	10.70	10.8	60	49.3	QP	L1	FLO
25.882000	7.50	11.2	60	52.5	QP	L1	FLO

MEASUREMENT RESULT: "TEST_fin2"

3/22/2019 9:40AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.174000	11.00	10.3	55	43.8	AV	L1	FLO
0.266000	9.00	10.2	51	42.2	AV	L1	FLO
0.778000	10.80	10.3	46	35.2	AV	L1	FLO
1.346000	8.10	10.4	46	37.9	AV	L1	FLO
11.558000	0.40	10.8	50	49.6	AV	L1	FLO
24.350000	10.90	11.1	50	39.1	AV	L1	FLO

Line Conducted Emission Test Line 2-N



MEASUREMENT RESULT: "TEST_fin"

3/22/2019 9:19AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.194000	14.60	10.3	64	49.3	QP	N	FLO
0.302000	12.80	10.2	60	47.4	QP	N	FLO
1.122000	12.60	10.4	56	43.4	QP	N	FLO
11.446000	8.70	10.8	60	51.3	QP	N	FLO
23.966000	11.10	11.1	60	48.9	QP	N	FLO
27.402000	11.90	11.2	60	48.1	QP	N	FLO

MEASUREMENT RESULT: "TEST_fin2"

3/22/2019 9:19AM

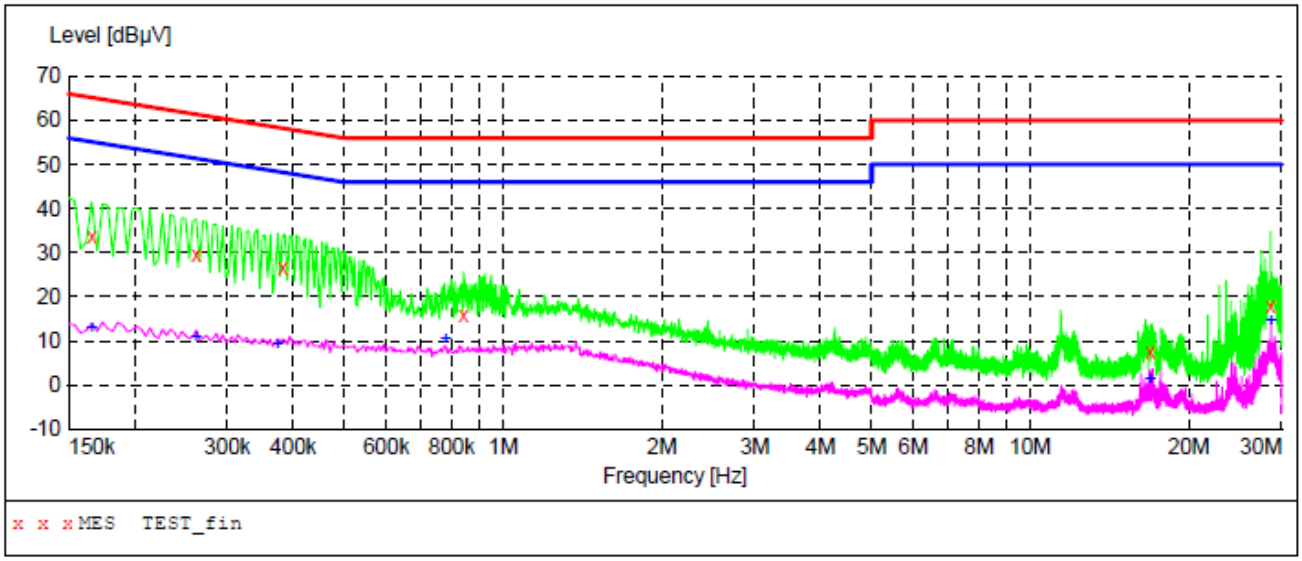
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.170000	10.90	10.3	55	44.1	AV	N	FLO
0.322000	8.50	10.2	50	41.2	AV	N	FLO
1.306000	8.00	10.4	46	38.0	AV	N	FLO
11.478000	-1.80	10.8	50	51.8	AV	N	FLO
16.870000	-0.80	10.9	50	50.8	AV	N	FLO
28.602000	6.30	11.2	50	43.7	AV	N	FLO

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.

Adapter 2

Line Conducted Emission Test Line 1-L



MEASUREMENT RESULT: "TEST_fin"

3/22/2019 9:02AM

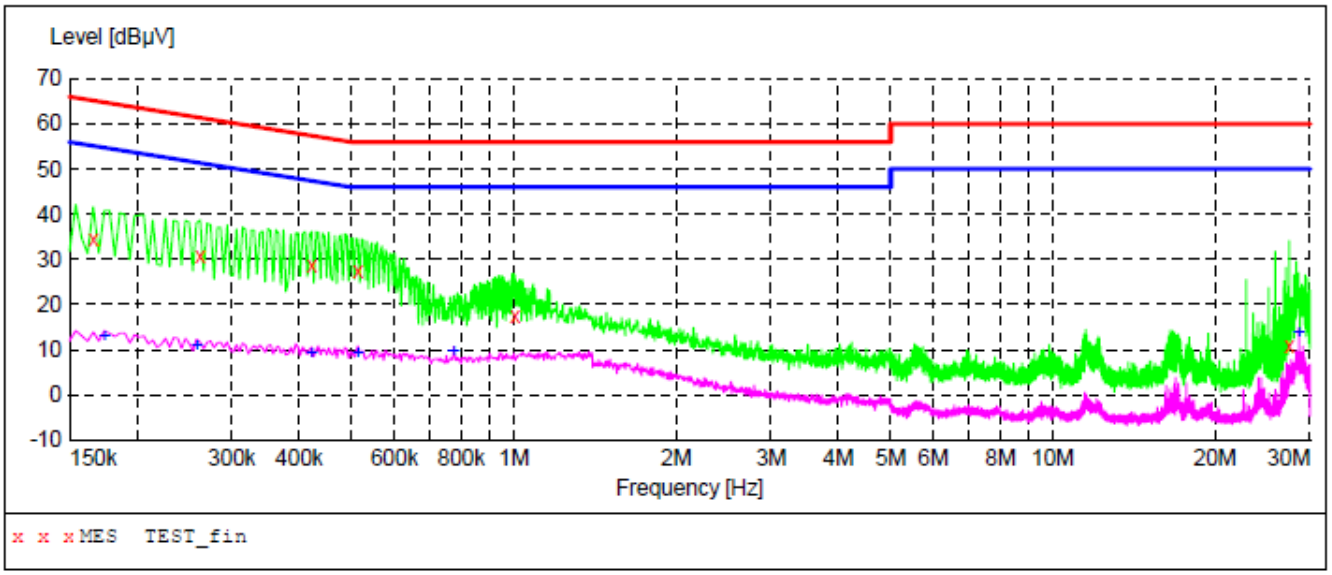
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.166000	33.60	10.3	65	31.6	QP	L1	FLO
0.262000	29.60	10.2	61	31.8	QP	L1	FLO
0.382000	26.40	10.3	58	31.8	QP	L1	FLO
0.842000	16.00	10.4	56	40.0	QP	L1	FLO
16.902000	7.60	10.9	60	52.4	QP	L1	FLO
28.578000	18.10	11.2	60	41.9	QP	L1	FLO

MEASUREMENT RESULT: "TEST_fin2"

3/22/2019 9:02AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.166000	13.10	10.3	55	42.1	AV	L1	FLO
0.262000	10.80	10.2	51	40.6	AV	L1	FLO
0.374000	9.40	10.3	48	39.0	AV	L1	FLO
0.778000	10.50	10.3	46	35.5	AV	L1	FLO
16.898000	1.40	10.9	50	48.6	AV	L1	FLO
28.634000	14.60	11.2	50	35.4	AV	L1	FLO

Line Conducted Emission Test Line 2-N



MEASUREMENT RESULT: "TEST_fin"

3/22/2019 8:57AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.166000	34.30	10.3	65	30.9	QP	N	FLO
0.262000	30.90	10.2	61	30.5	QP	N	FLO
0.422000	28.60	10.3	57	28.8	QP	N	FLO
0.514000	27.40	10.3	56	28.6	QP	N	FLO
1.006000	17.30	10.4	56	38.7	QP	N	FLO
27.430000	10.70	11.2	60	49.3	QP	N	FLO

MEASUREMENT RESULT: "TEST_fin2"

3/22/2019 8:57AM

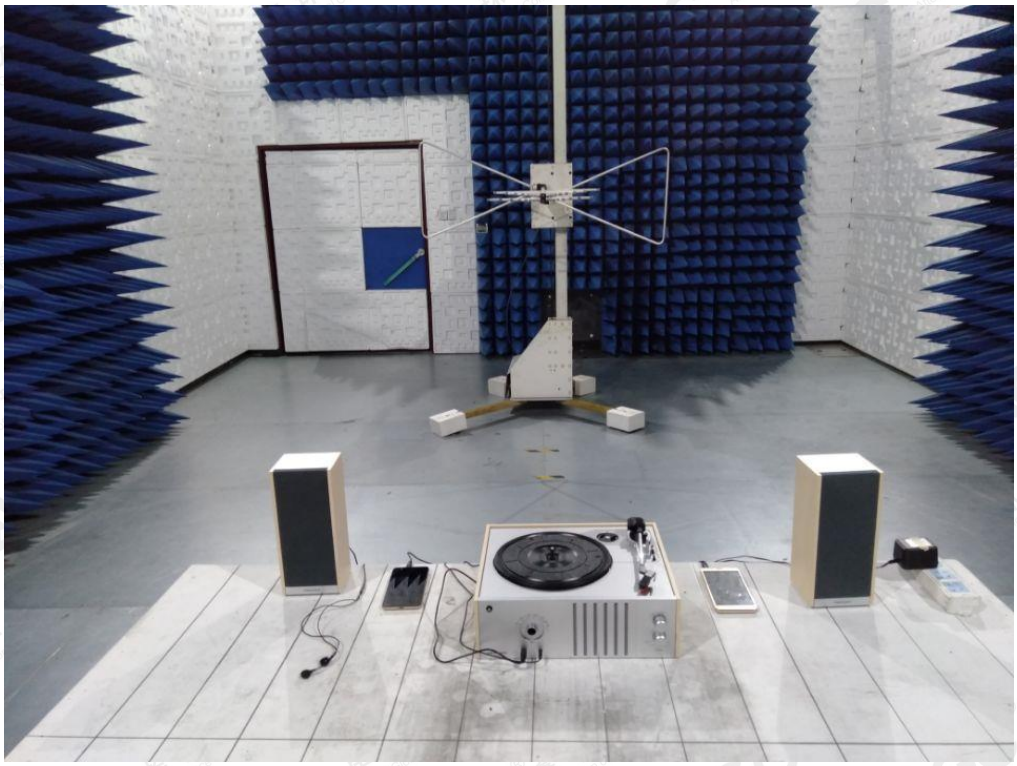
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.174000	12.90	10.3	55	41.9	AV	N	FLO
0.258000	11.00	10.2	52	40.5	AV	N	FLO
0.422000	9.40	10.3	47	38.0	AV	N	FLO
0.514000	9.00	10.3	46	37.0	AV	N	FLO
0.774000	9.70	10.3	46	36.3	AV	N	FLO
28.634000	13.90	11.2	50	36.1	AV	N	FLO

RESULT: PASS

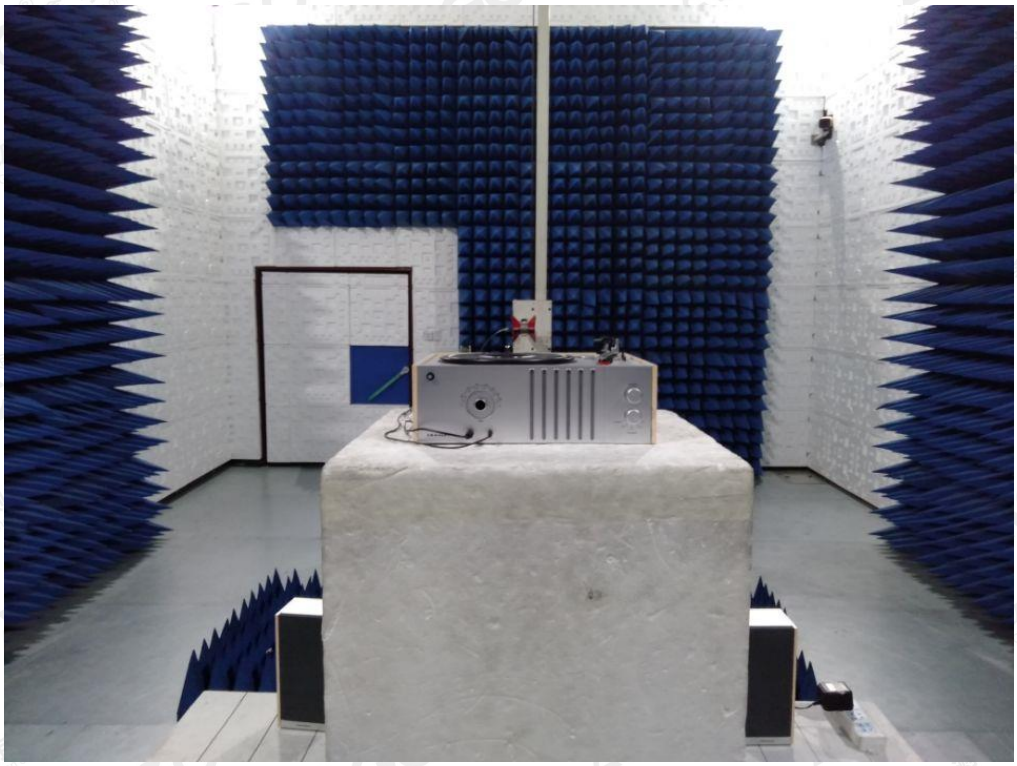
Note: All the test modes had been tested, the mode 7 was the worst case. Only the data of the worst case would be record in this test report.

APPENDIX A: PHOTOGRAPHS OF TEST SETUP

RADIATED EMISSION TEST SETUP BELOW 1GHZ



RADIATED EMISSION TEST SETUP ABOVE 1GHZ

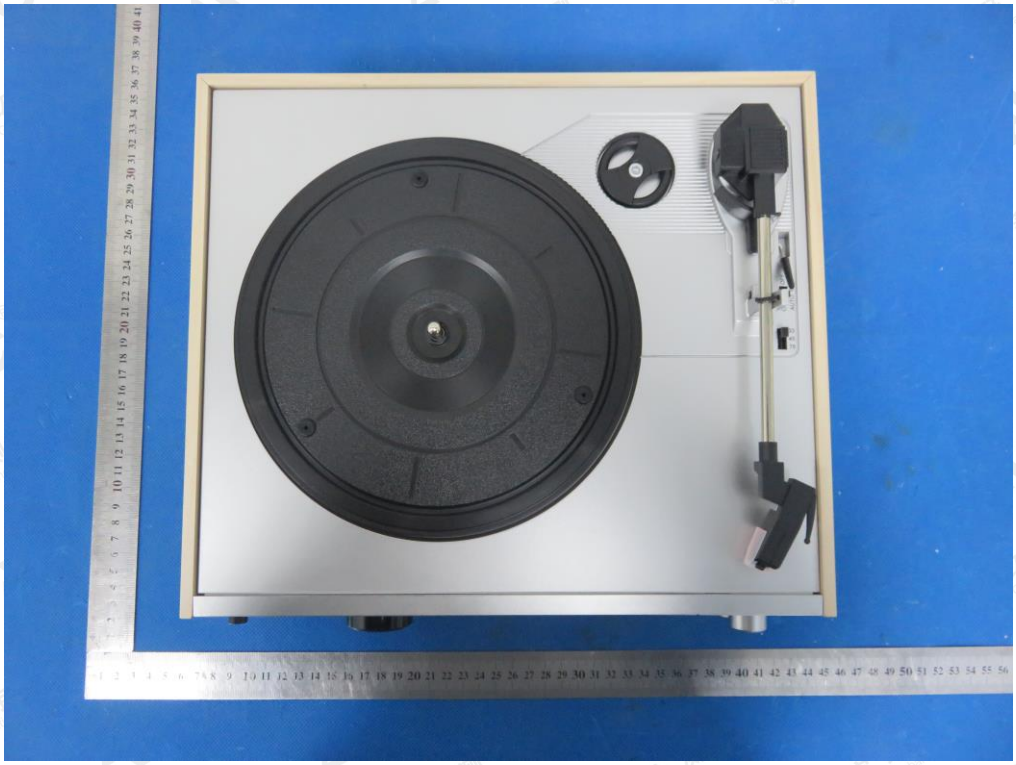


CONDUCTED EMISSION TEST SETUP

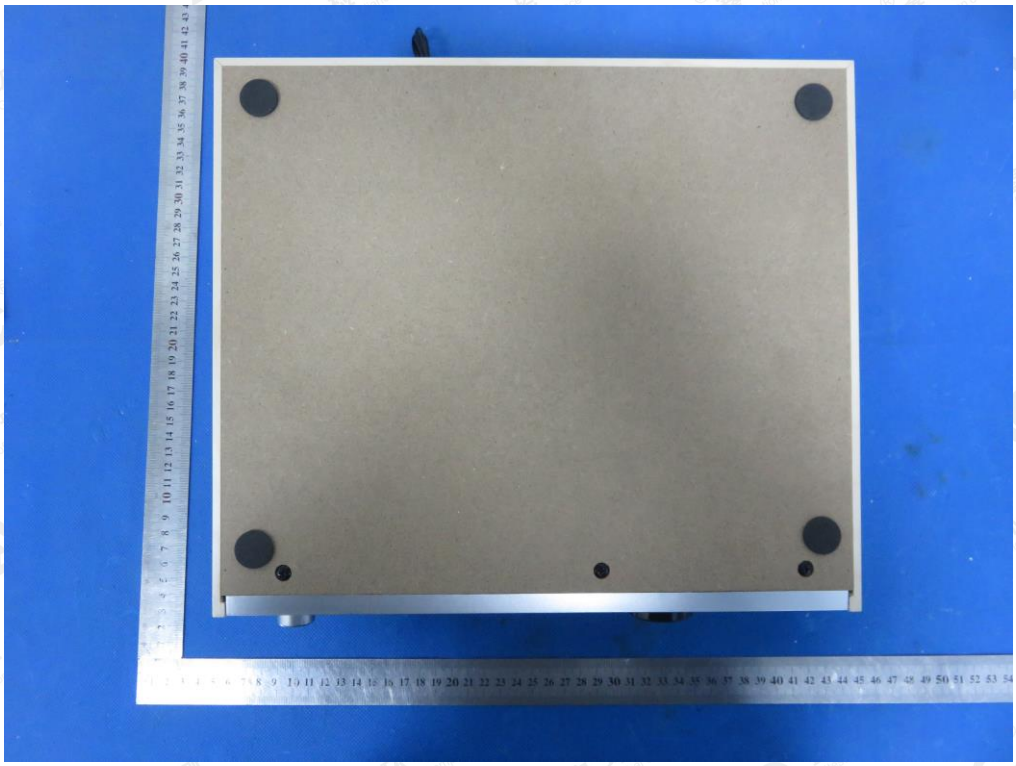
APPENDIX B: PHOTOGRAPHS OF EUT

TOTAL VIEW OF EUT

TOP VIEW OF EUT



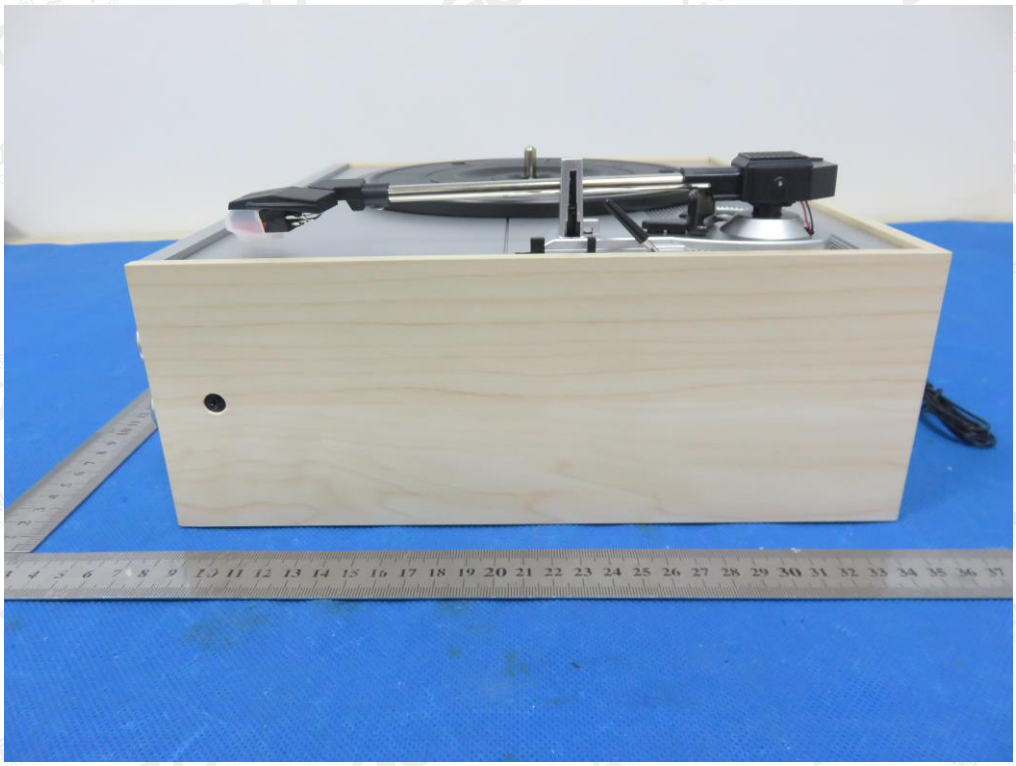
BOTTOM VIEW OF EUT



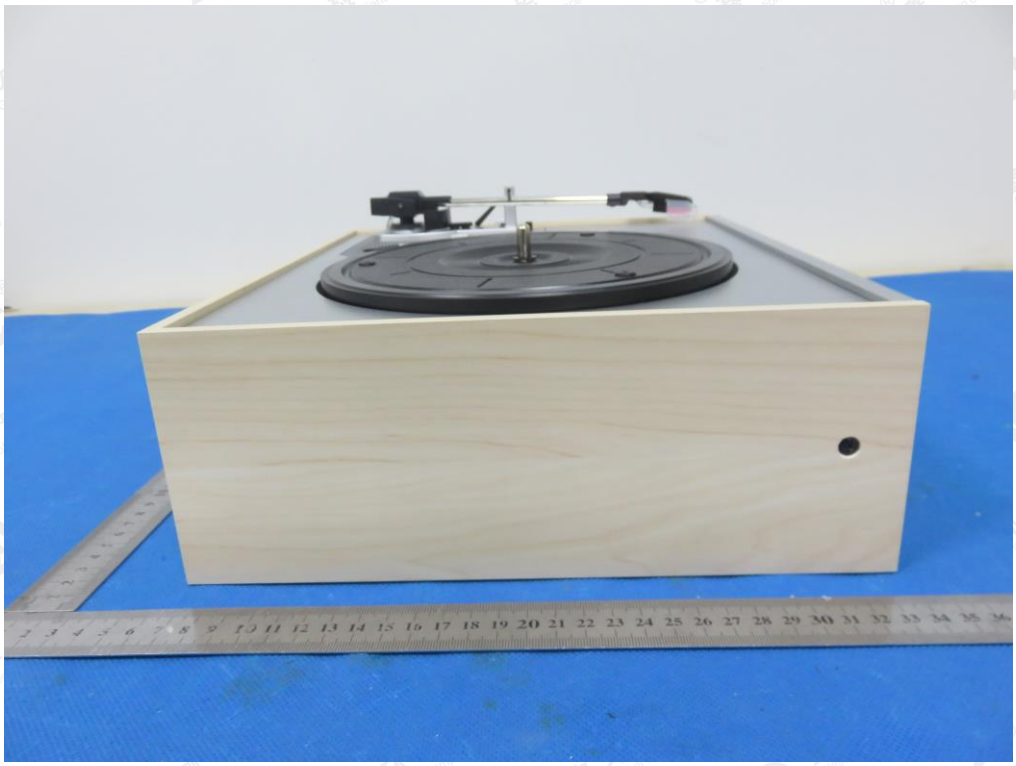
FRONT VIEW OF EUT

BACK VIEW OF EUT

LEFT VIEW OF EUT



RIGHT VIEW OF EUT

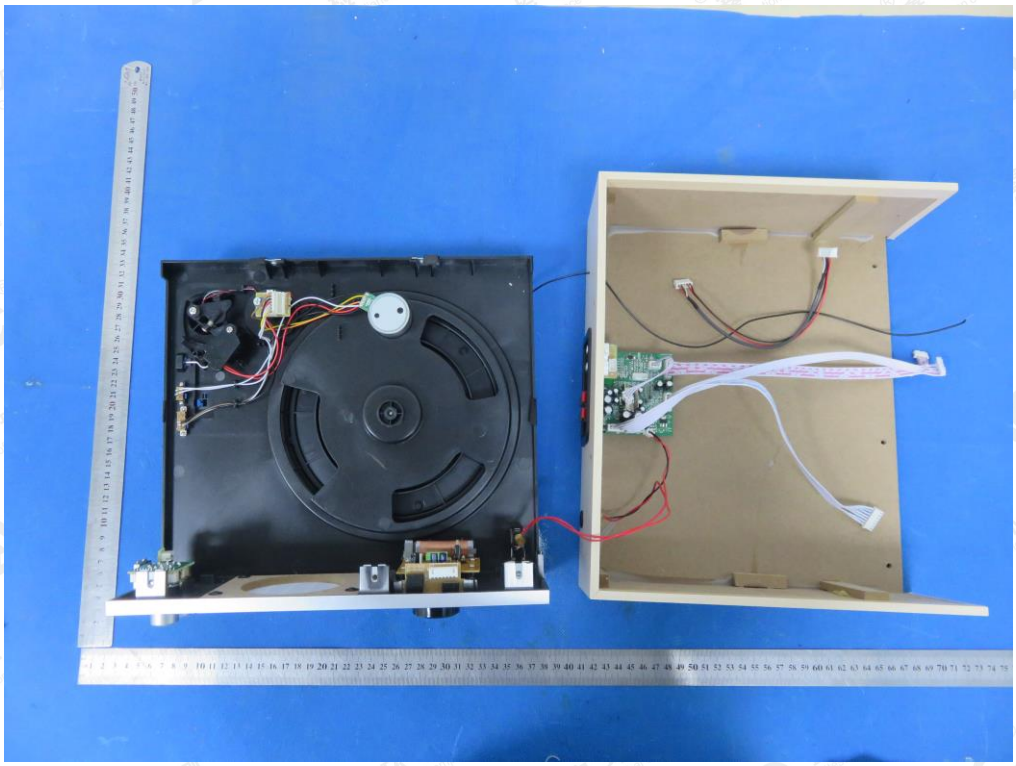


VIEW OF EUT (PORT)-1

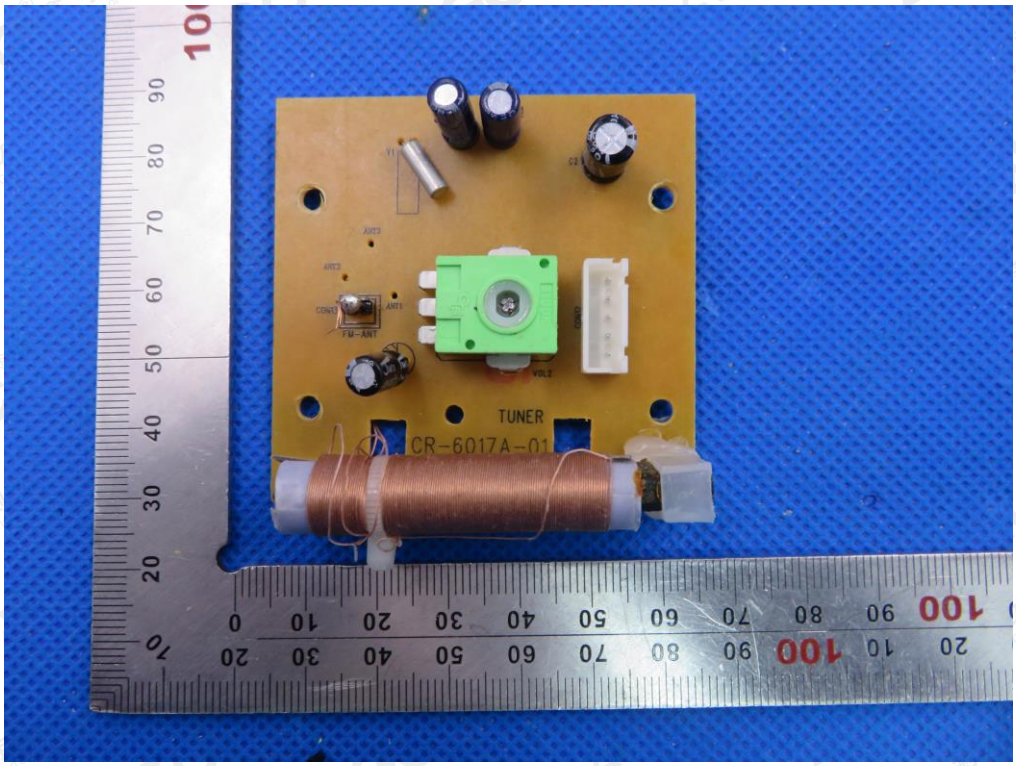
VIEW OF EUT (PORT)-2

VIEW OF EUT (PORT)-3

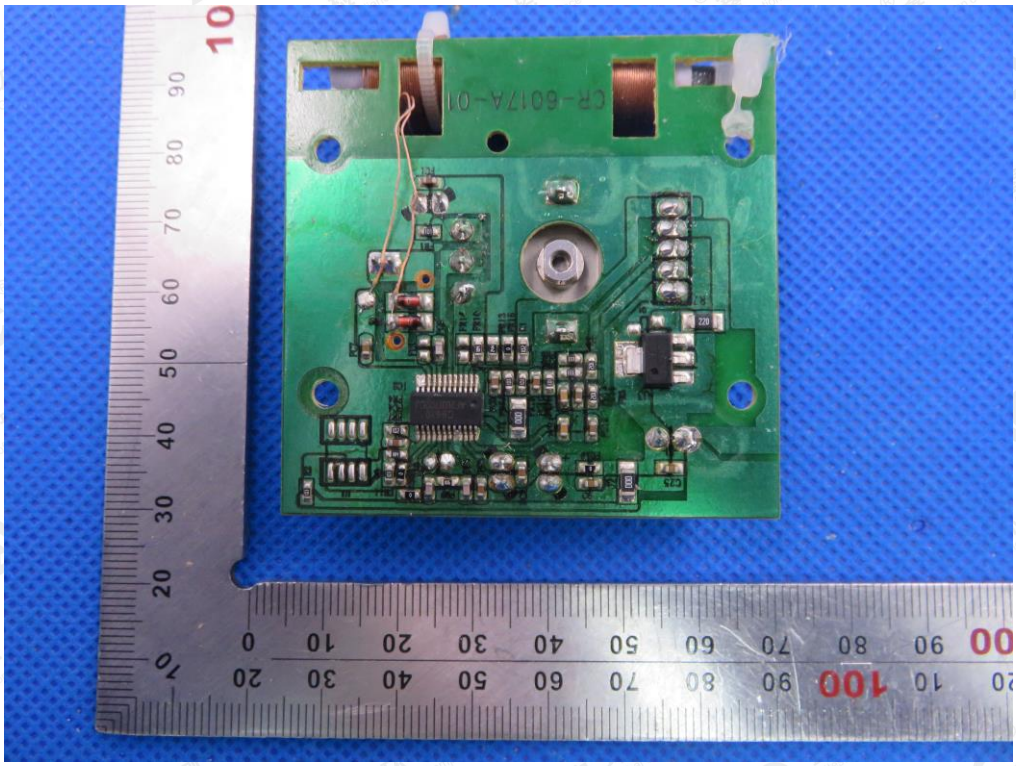
OPEN VIEW OF EUT



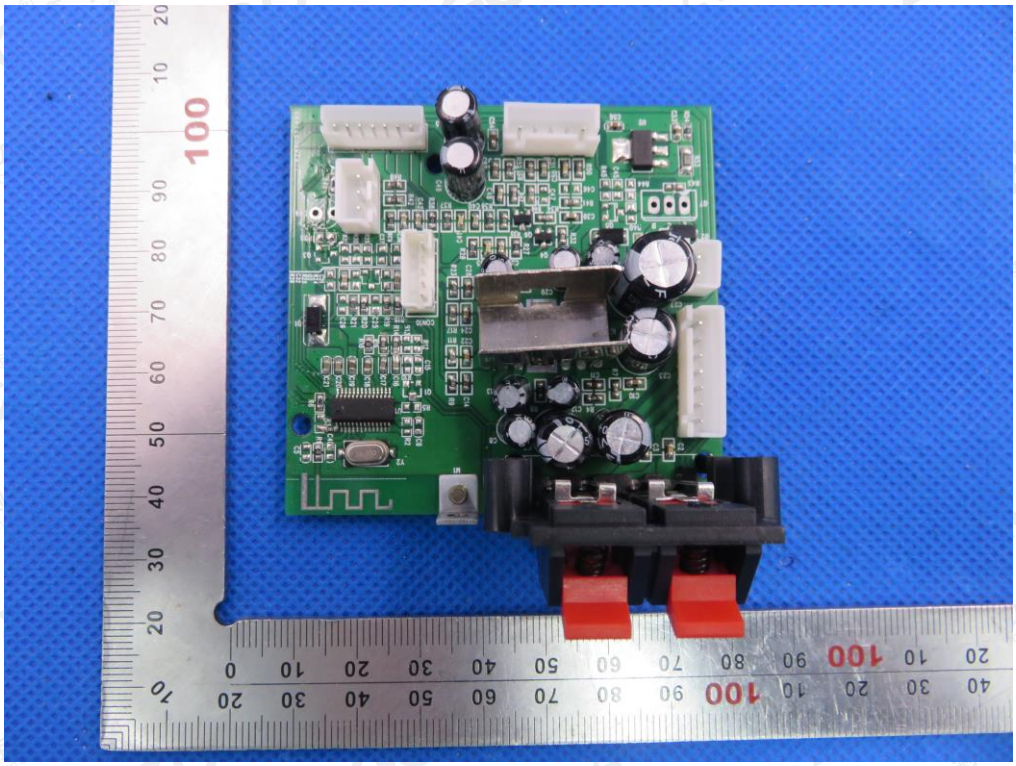
INTERNAL VIEW OF EUT-1



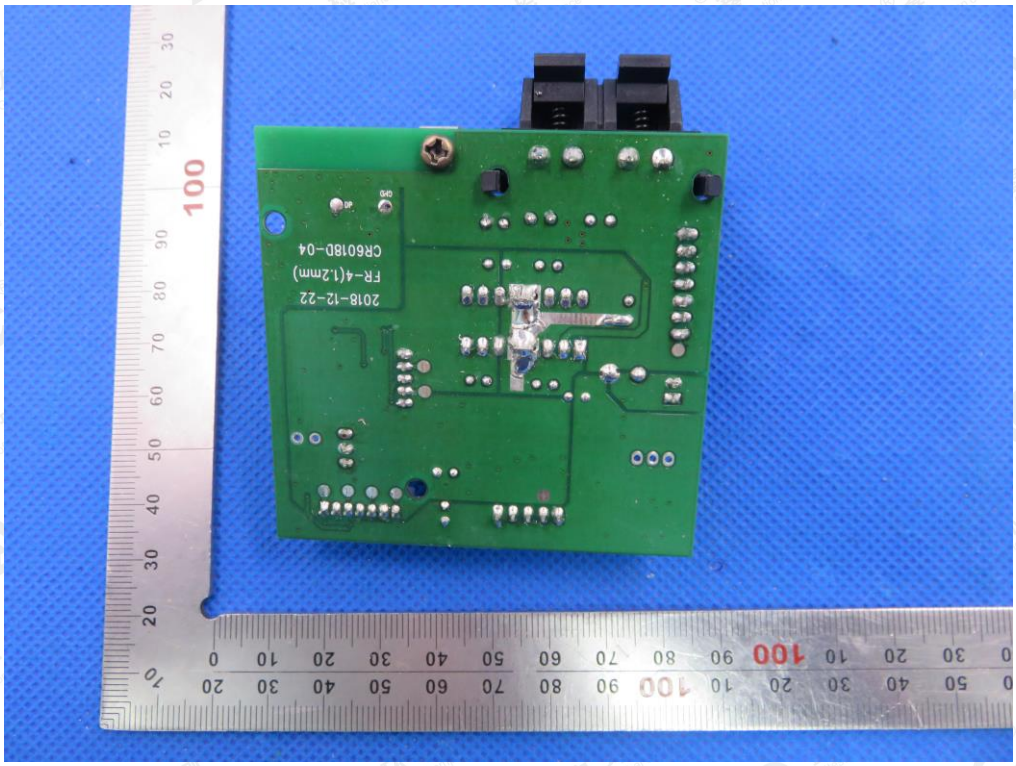
INTERNAL VIEW OF EUT-2



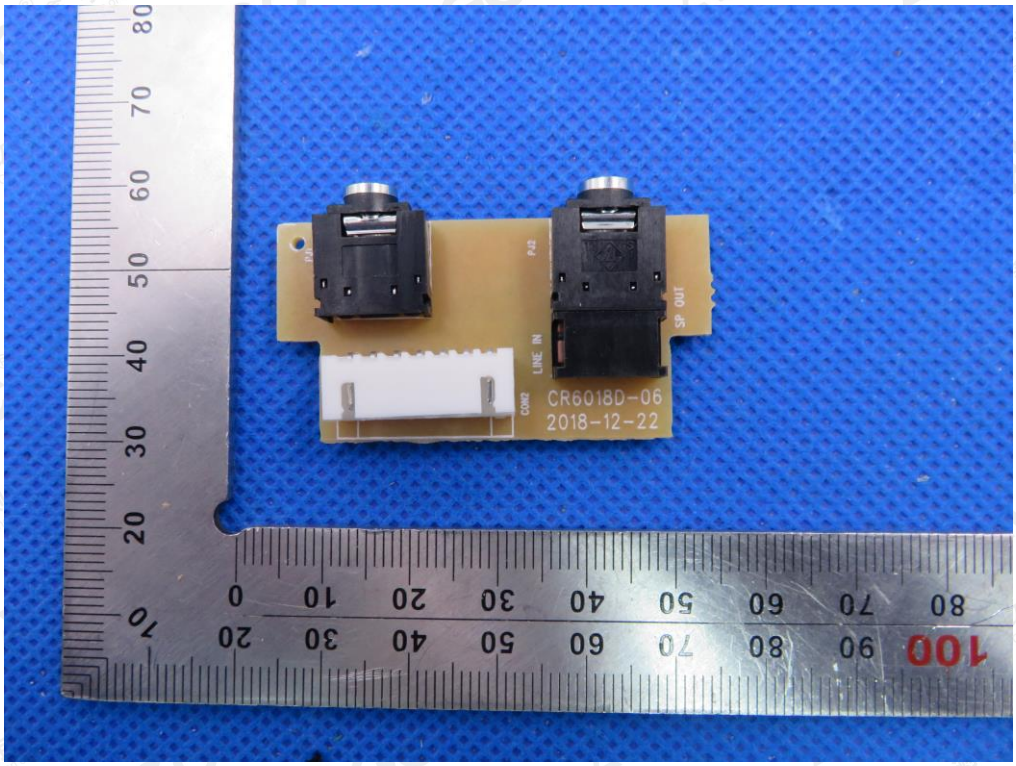
INTERNAL VIEW OF EUT-3



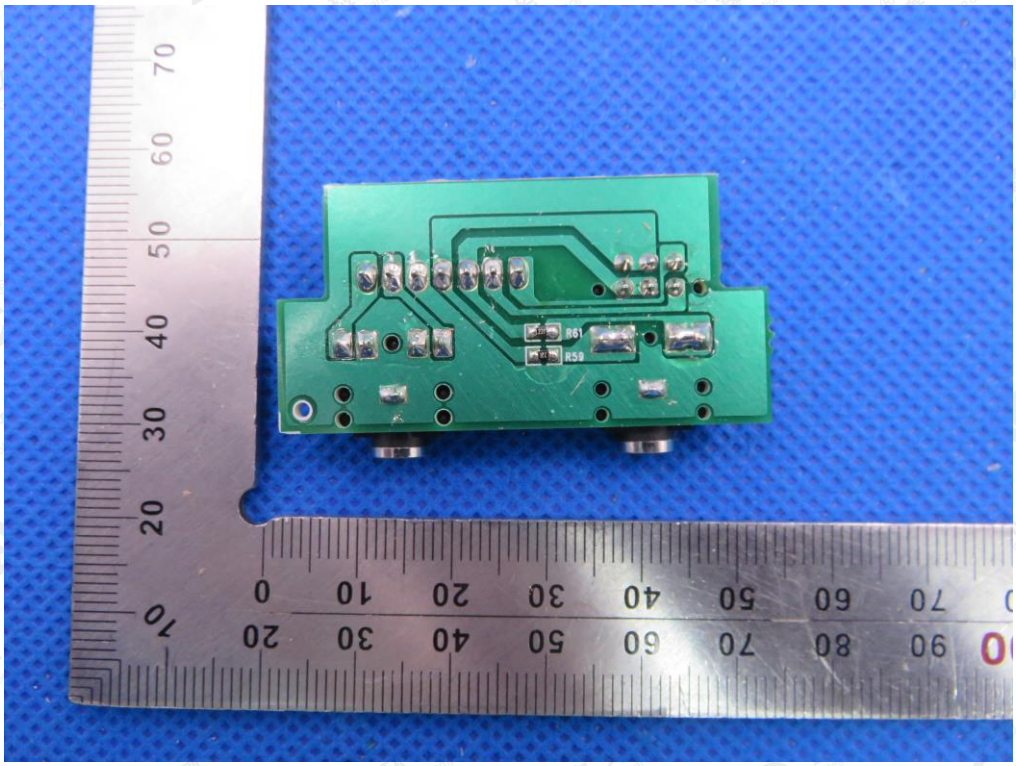
INTERNAL VIEW OF EUT-4



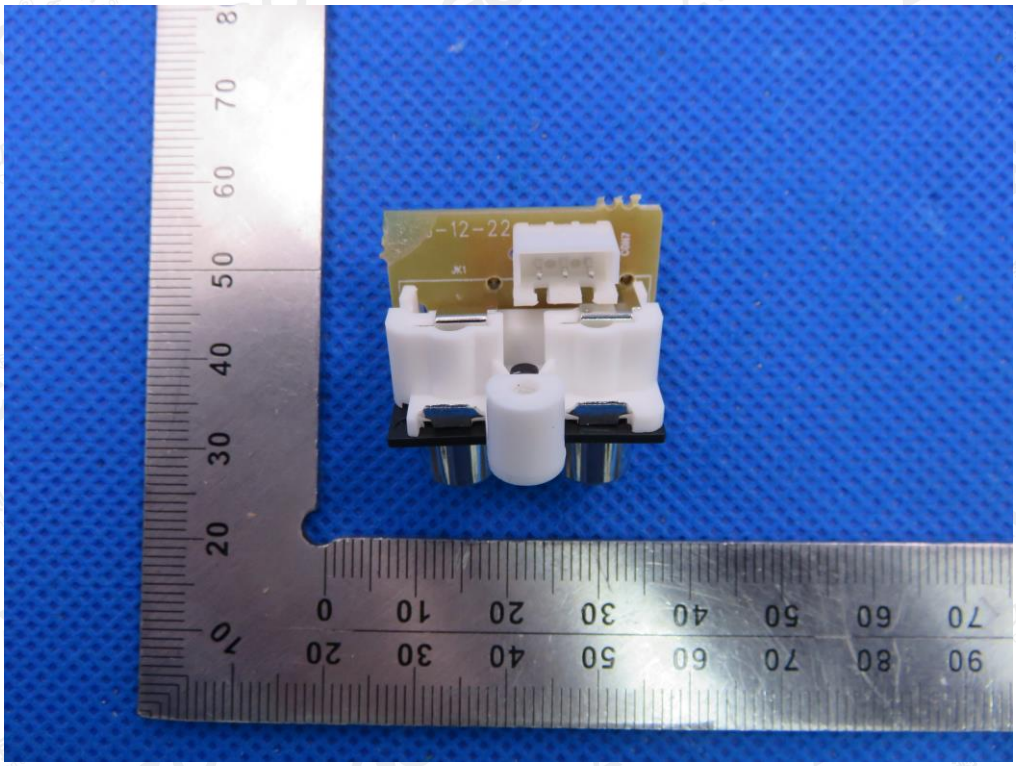
INTERNAL VIEW OF EUT-5



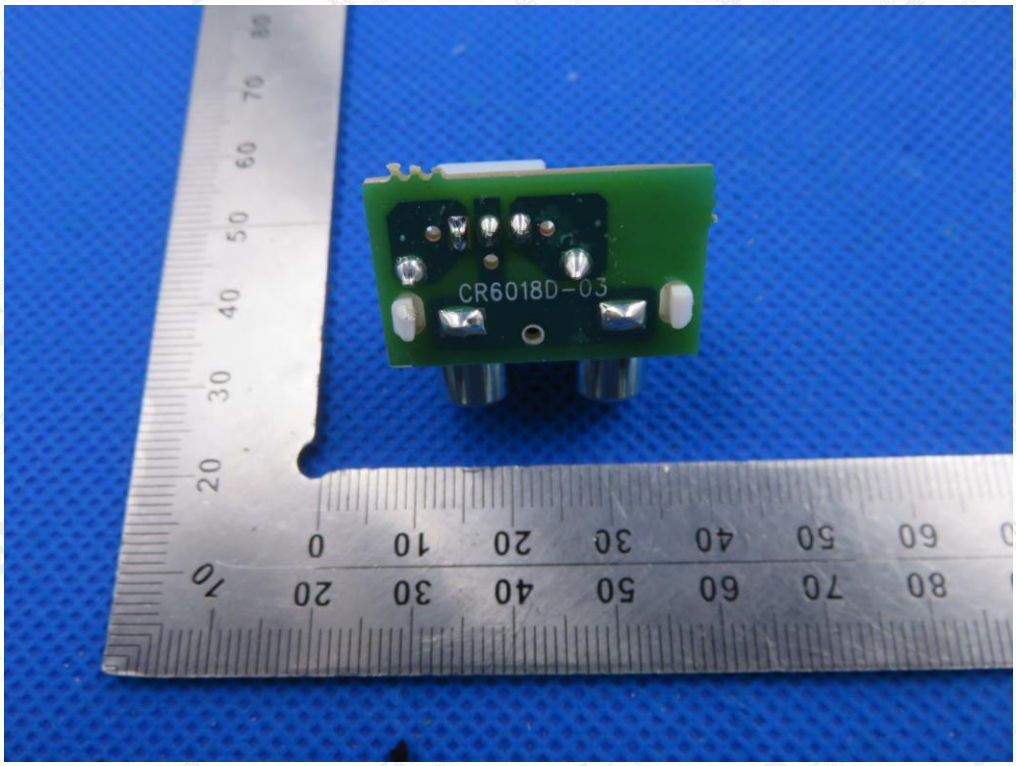
INTERNAL VIEW OF EUT-6



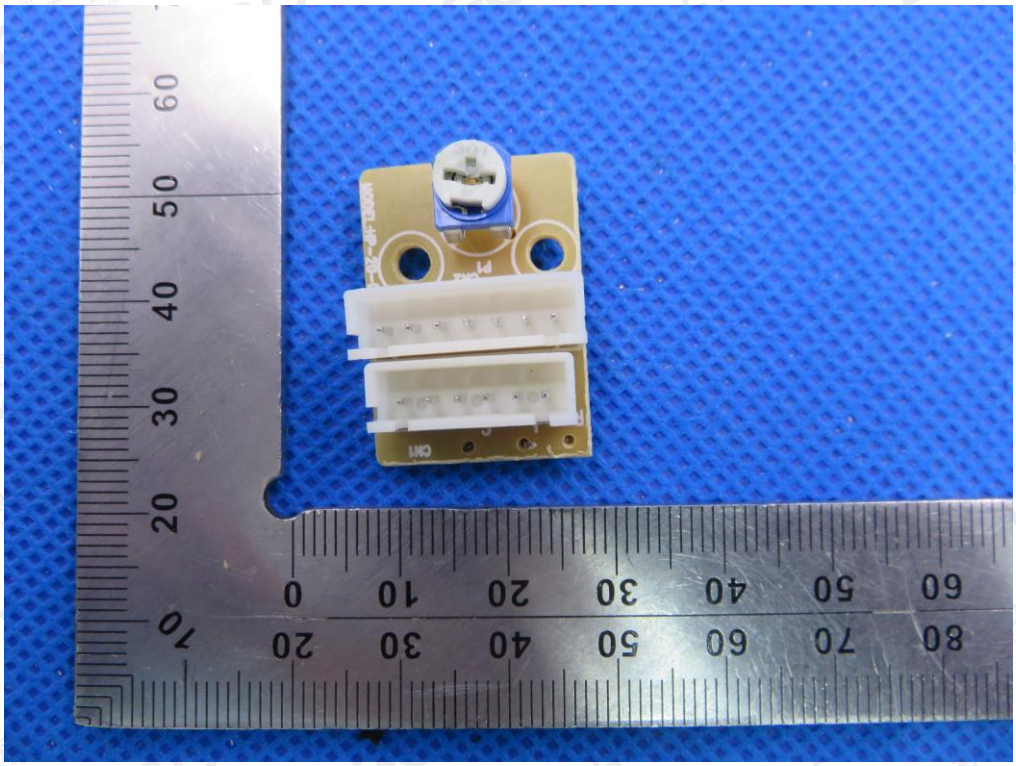
INTERNAL VIEW OF EUT-7



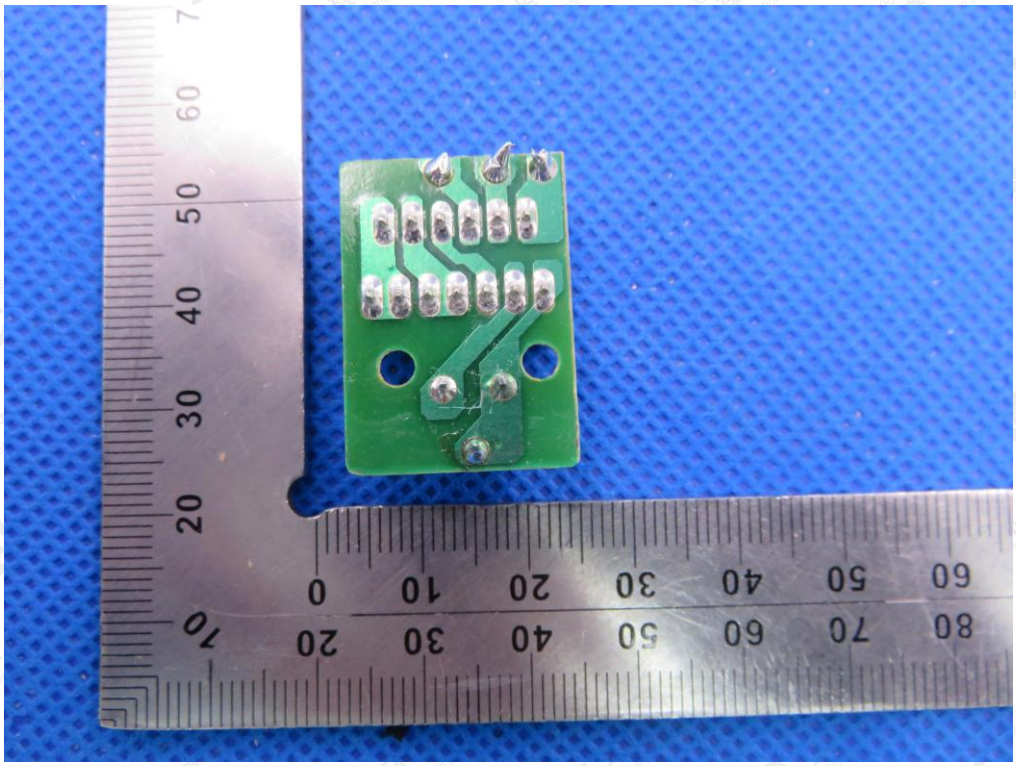
INTERNAL VIEW OF EUT-8



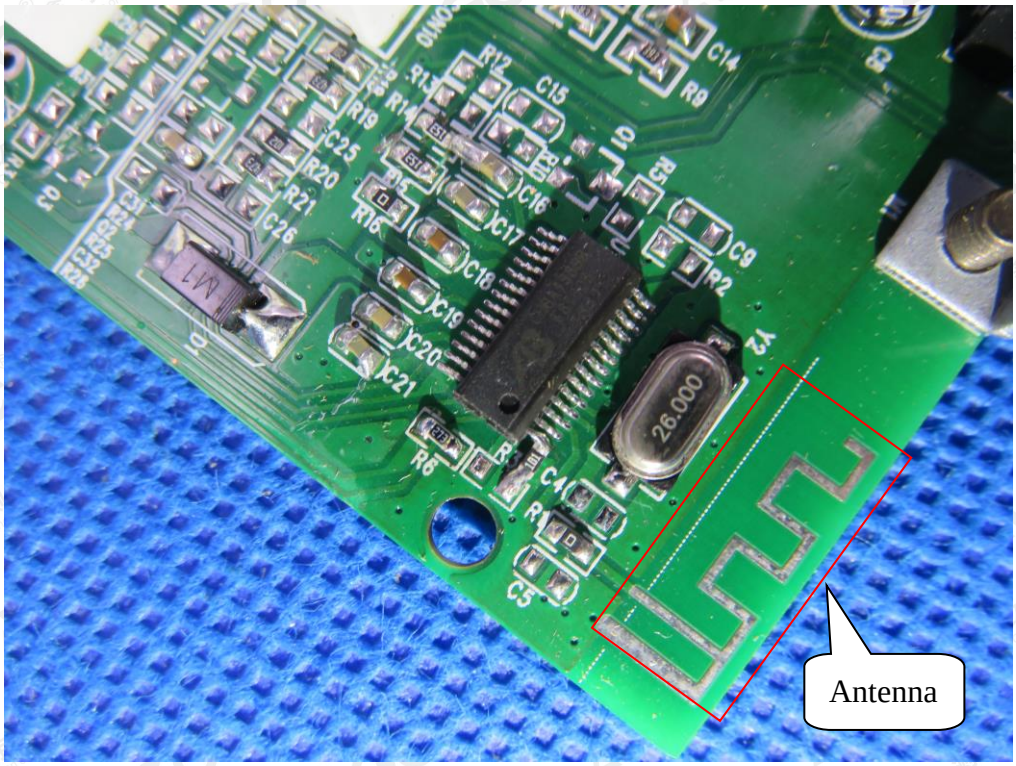
INTERNAL VIEW OF EUT-9



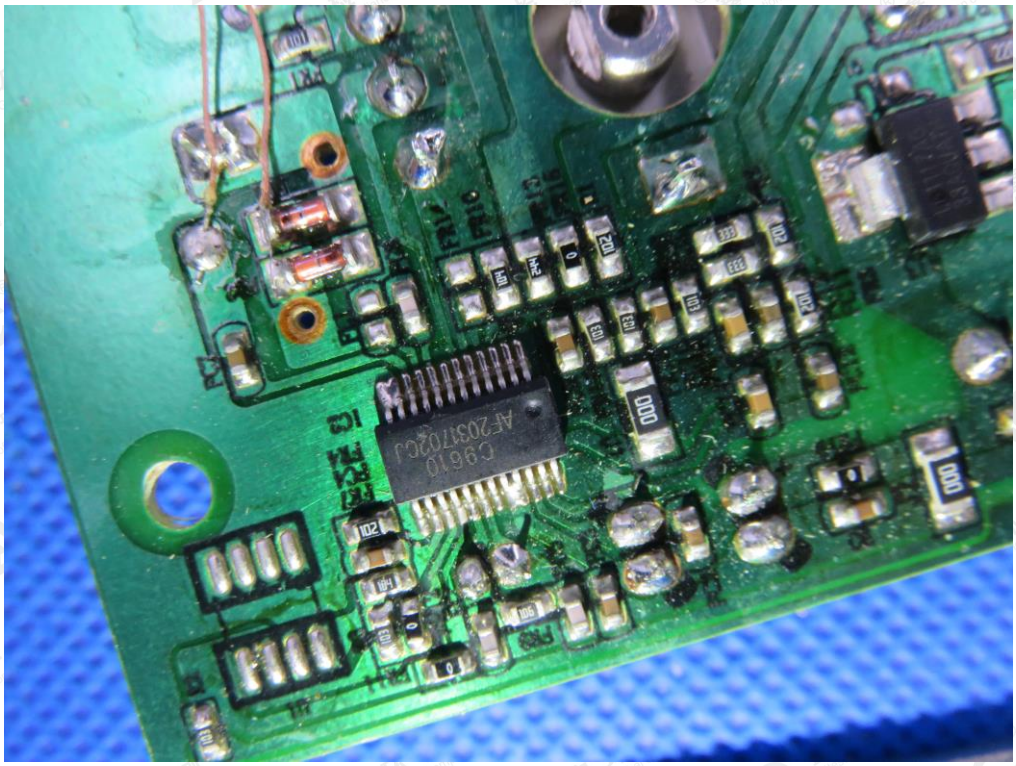
INTERNAL VIEW OF EUT-10



INTERNAL VIEW OF EUT-11



INTERNAL VIEW OF EUT-12



Adapter 1

Adapter 2

----END OF REPORT----