

## 12. AUDIO LOW PASS FILTER RESPONSE

### 12.1. TEST LIMITS

**2.1047(a):** Voice modulated communication equipment. A curve or equivalent data showing the frequency response of the audio modulating circuit over a range of 100 to 5000 Hz shall be submitted. For equipment required to have an audio low-pass filter, a curve showing the frequency response of the filter or of all circuitry installed between the modulation limiter and the modulated stage shall be submitted.

**90.242(b)(8):** Recommended audio filter attenuation characteristics are given below:

Audio band	Minimum Attenuation Rel. to 1 KHz Attenuation
3 –20 KHz	$60 \log_{10}(f/3)$ dB where f is in KHz
20 – 30 KHz	50dB

### 12.2. METHOD OF MEASUREMENTS

The rated audio input signal was applied to the input of the audio low-pass filter (or of all modulation stages) using an audio oscillator, this input signal level and its corresponding output signal were then measured and recorded using the FFT Digital Spectrum Analyzer. Tests were repeated at different audio signal frequencies from 0 to 50 KHz.



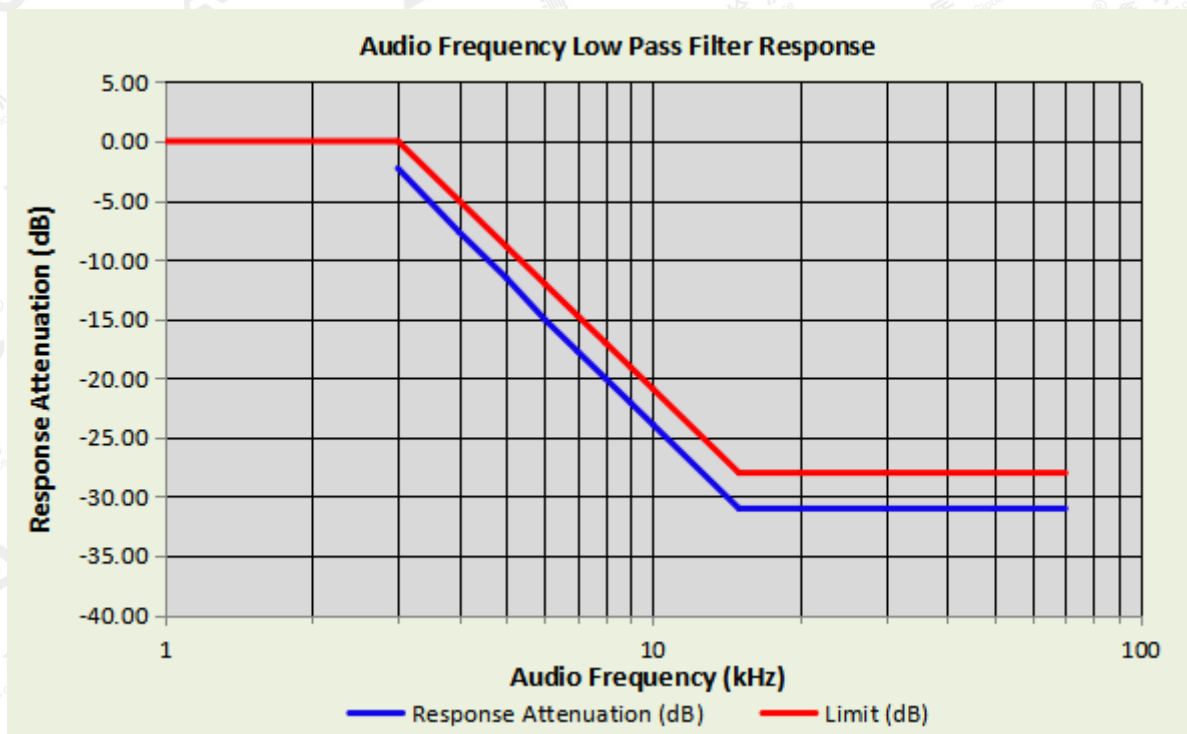
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**12.3.MEASURE RESULT**

Analog:

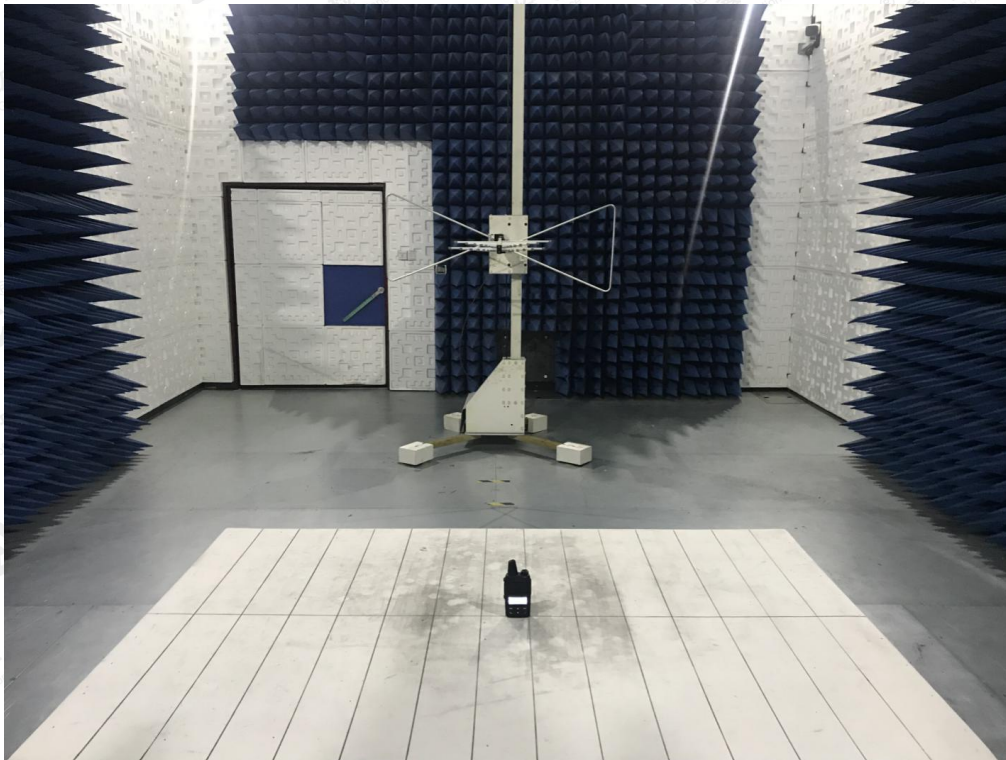
**12.5 KHZ CHANNEL SPACING, F3E, FREQUENCY OF ALL MODULATION STATES (TEST RESULT FOR UHF)-2W**

Audio Frequency (kHz)	Response Attenuation (dB)	Limit (dB)
1	0	/
3	-2.29	0.00
4	-7.65	-5.00
5	-11.52	-8.87
6	-15.05	-12.04
7	-17.73	-14.72
8	-20.05	-17.04
9	-22.09	-19.08
10	-23.93	-20.92
15	-31.01	-28.00
20	-31.01	-28.00
30	-31.01	-28.00
50	-31.01	-28.00
70	-31.01	-28.00



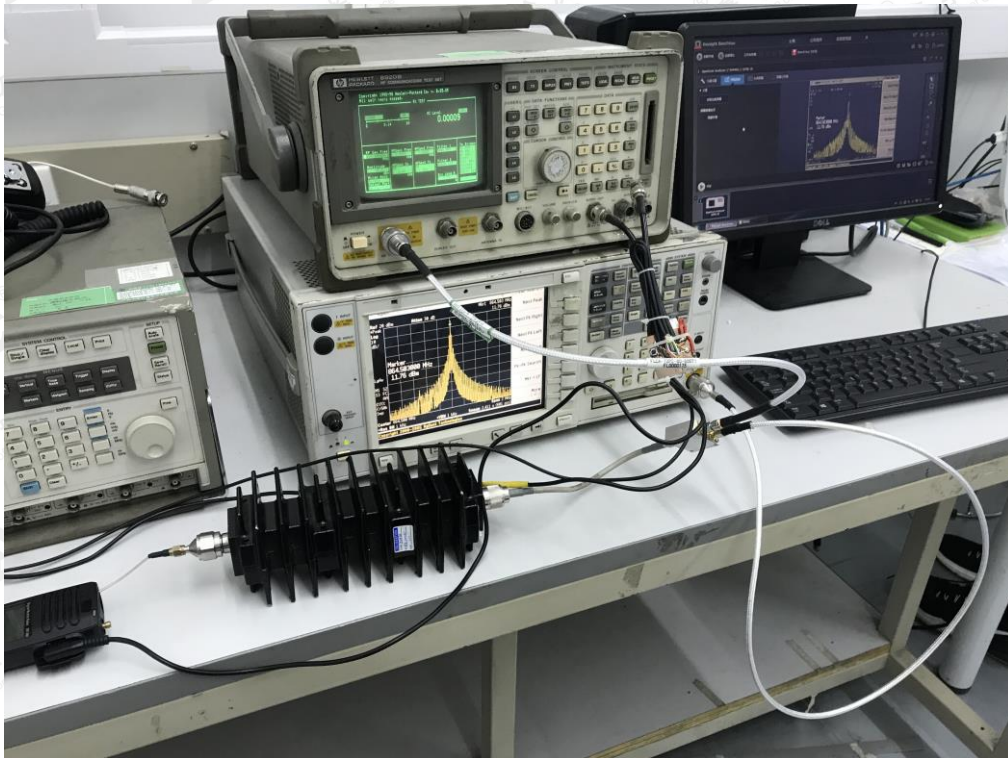
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**APPENDIX I: PHOTOGRAPHS OF SETUP**  
**RADIATED EMISSION TEST SETUP**



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CONDUCTED TEST SETUP



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### APPENDIX II PHOTOGRAPHS OF EUT

TOTAL VIEW OF EUT



TOP VIEW OF EUT



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BOTTOM VIEW OF EUT



FRONT VIEW OF EUT



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BACK VIEW OF EUT



LEFT VIEW OF EUT



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RIGHT VIEW OF EUT



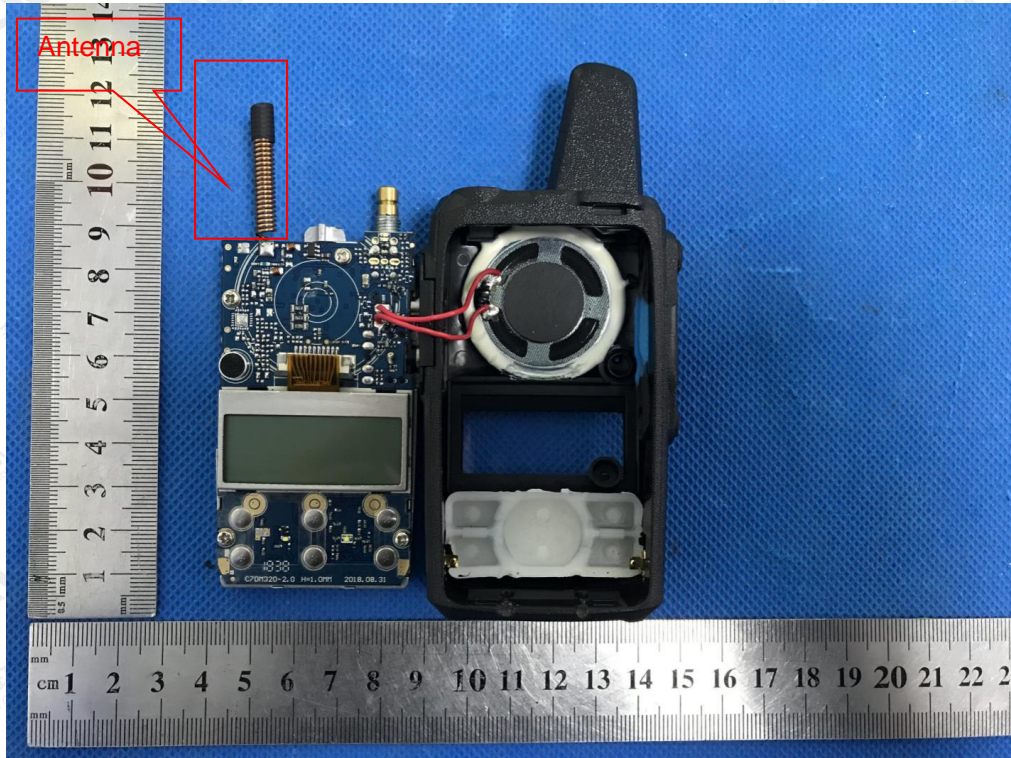
OPEN VIEW-1 OF EUT



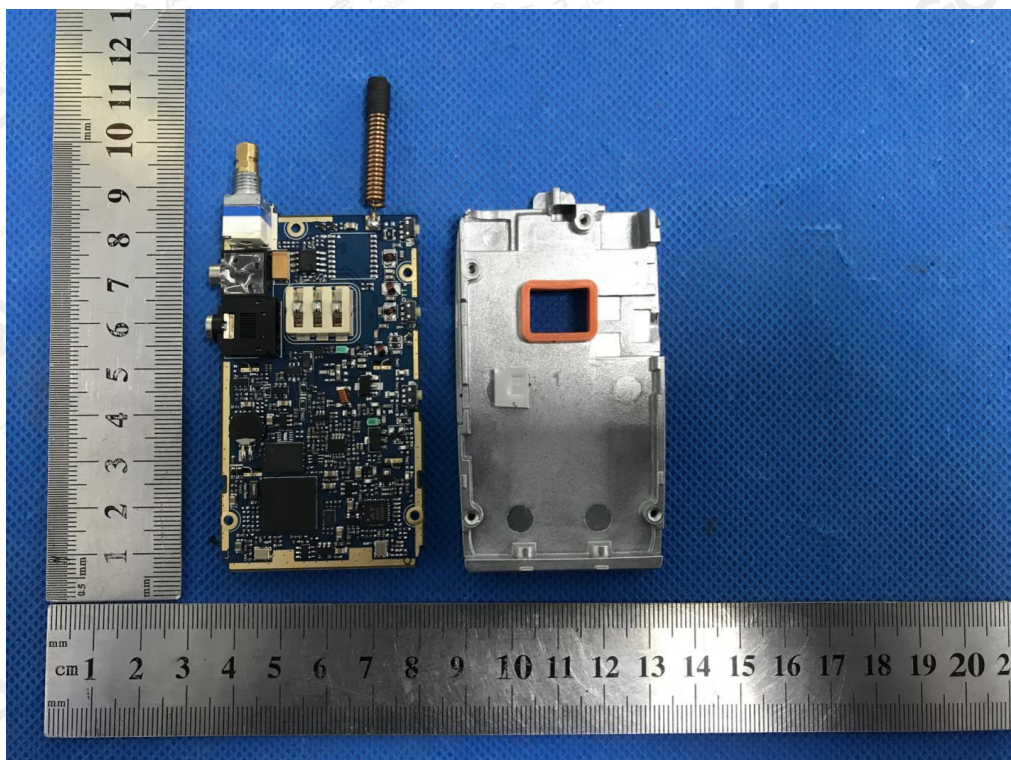
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OPEN VIEW-2 OF EUT

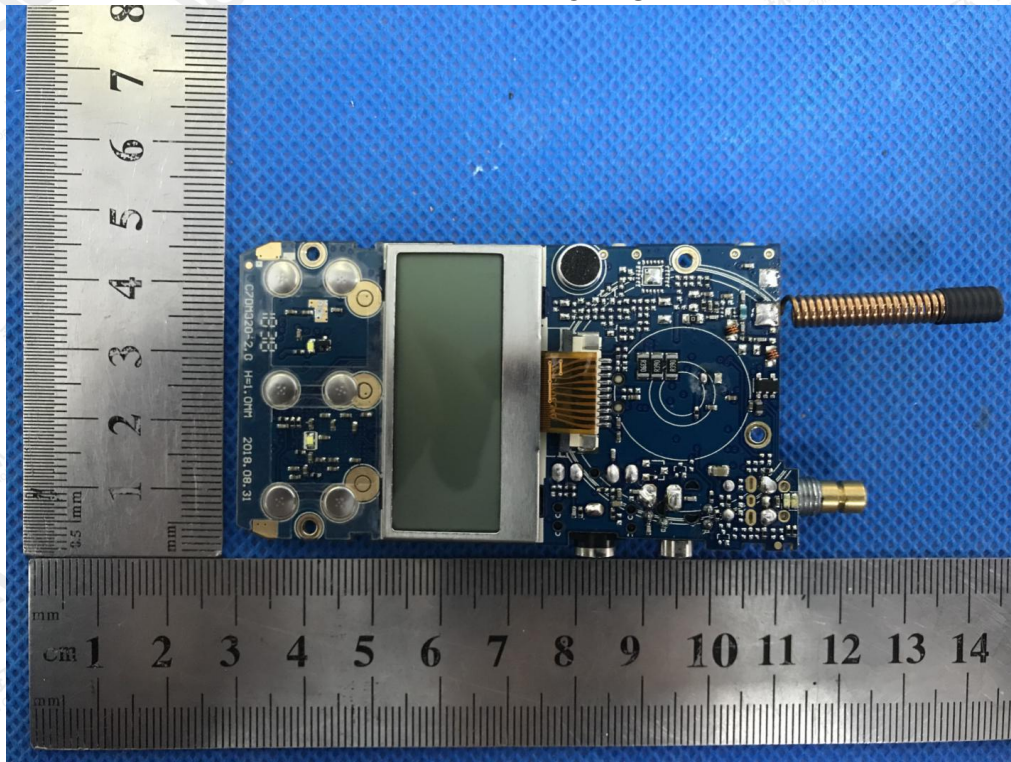


OPEN VIEW-3 OF EUT

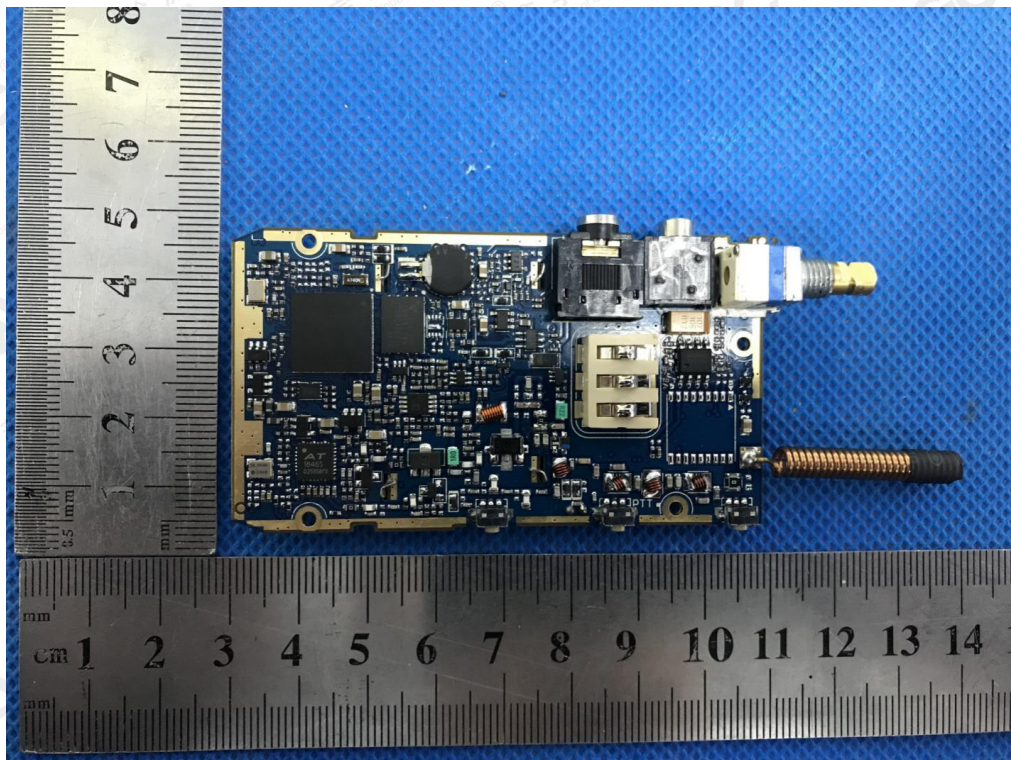


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INTERNAL VIEW-1 OF EUT

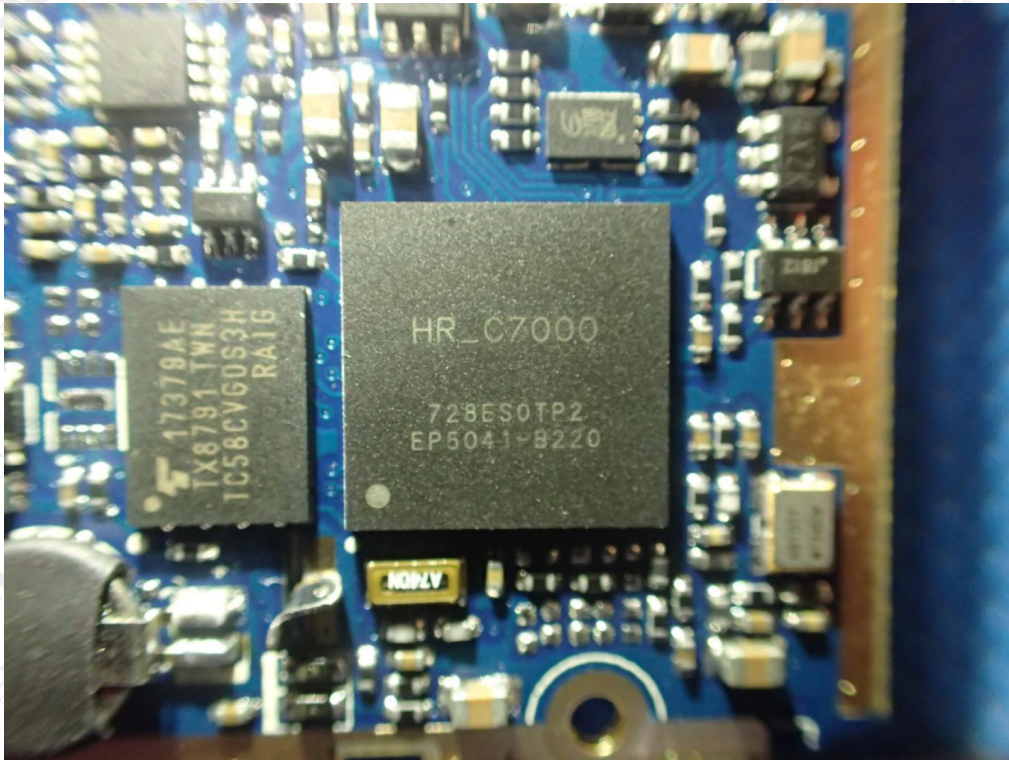


INTERNAL VIEW-2 OF EUT

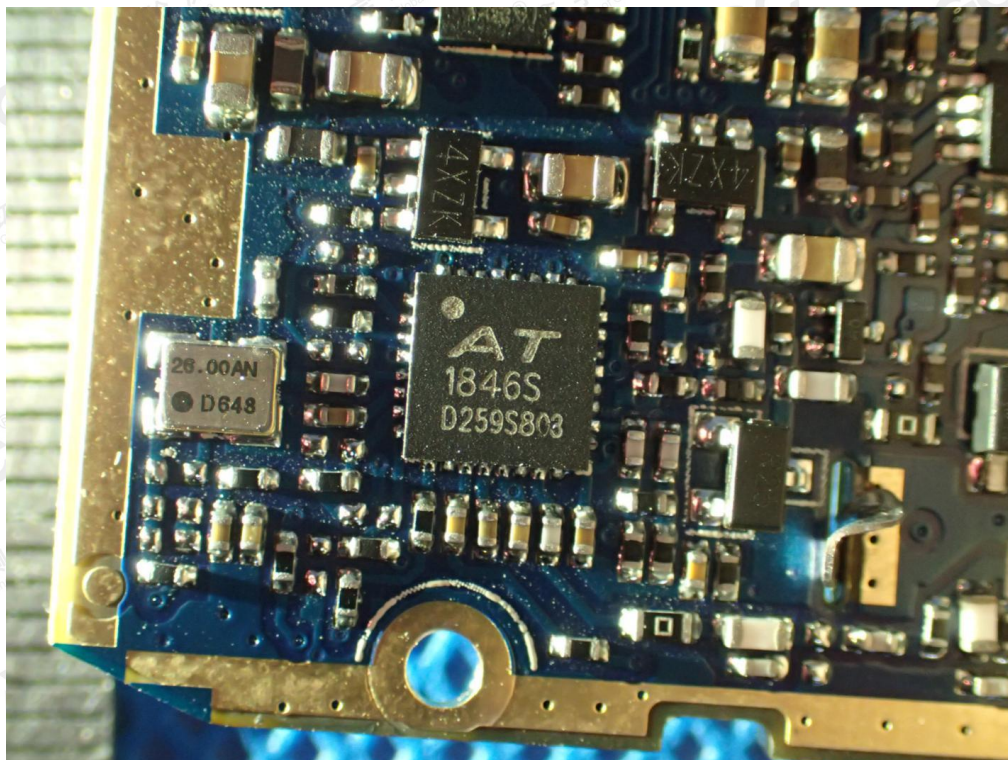


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INTERNAL VIEW-3 OF EUT

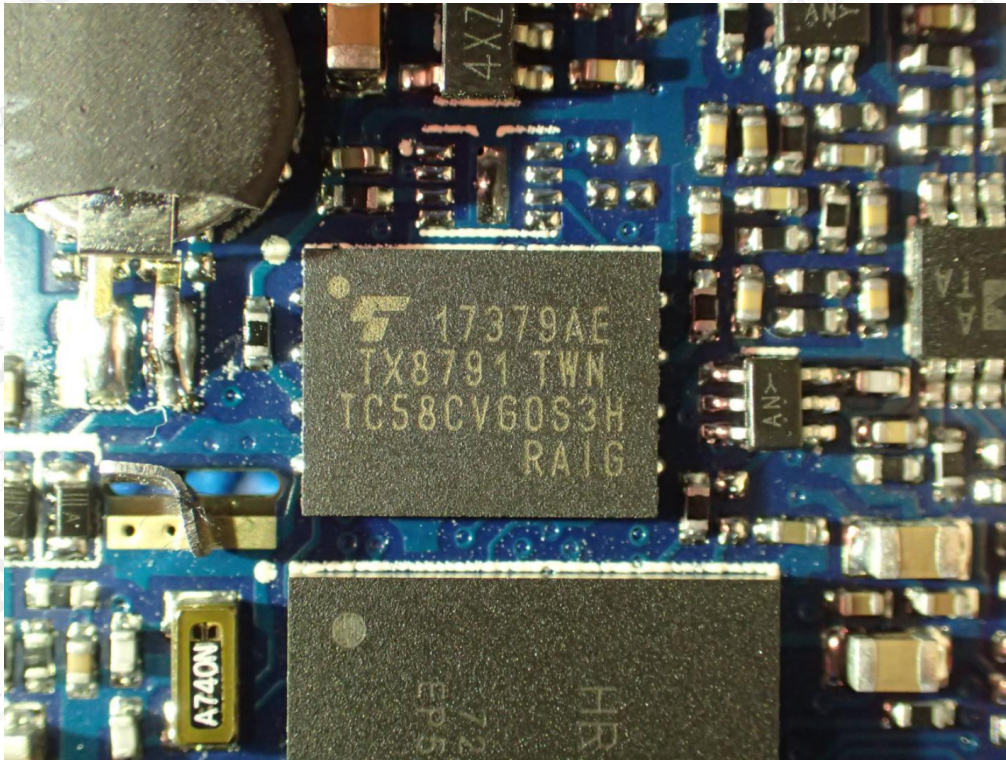


INTERNAL VIEW-4 OF EUT



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INTERNAL VIEW-5 OF EUT



----END OF REPORT----

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