4.6 6db Bandwidth

4.6.1 Limit

For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz.

4.6.2 Test Procedure

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with RBW=100 KHz and VBW=300 KHz.
The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.
1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

4.6.3 Deviation From Standard

No deviation.

4.6.4 Test Setup

4.6.5 Test Result

Test Rate	Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	Limit (KHz)	Result
1M	Low	2402	0.696	≥500	Pass
	Middle	2440	0.688		Pass
	High	2480	0.676		Pass
2M	Low	2402	1.252		Pass
	Middle	2440	1.248		Pass
	High	2480	1.244		Pass

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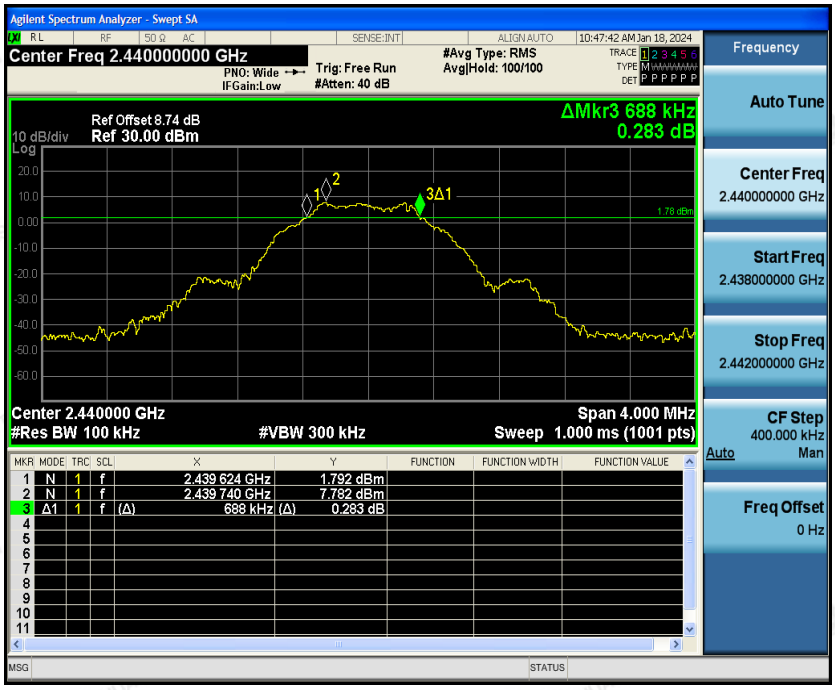
1M: CH 00

1M: CH 19



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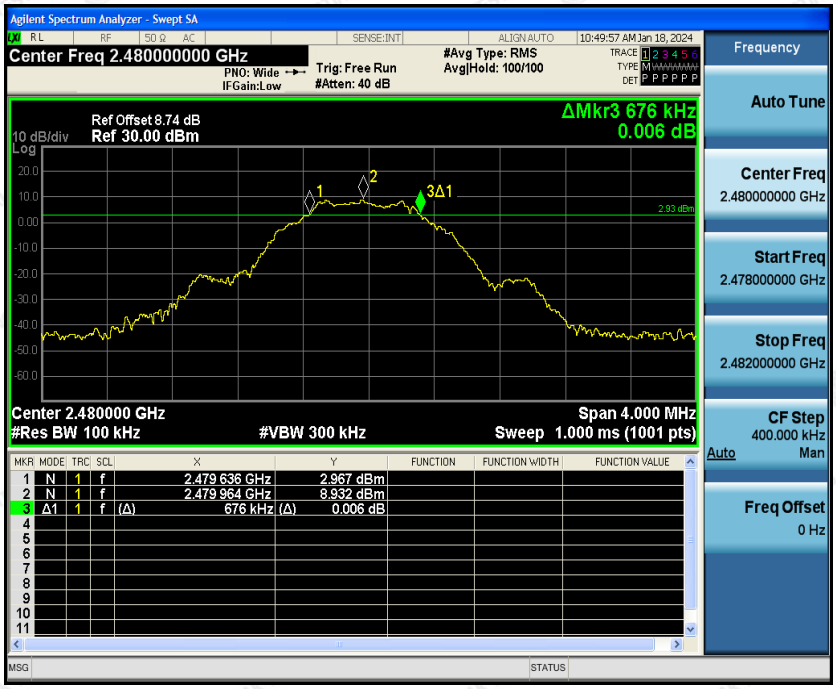
1M: CH 39



2M: CH 00

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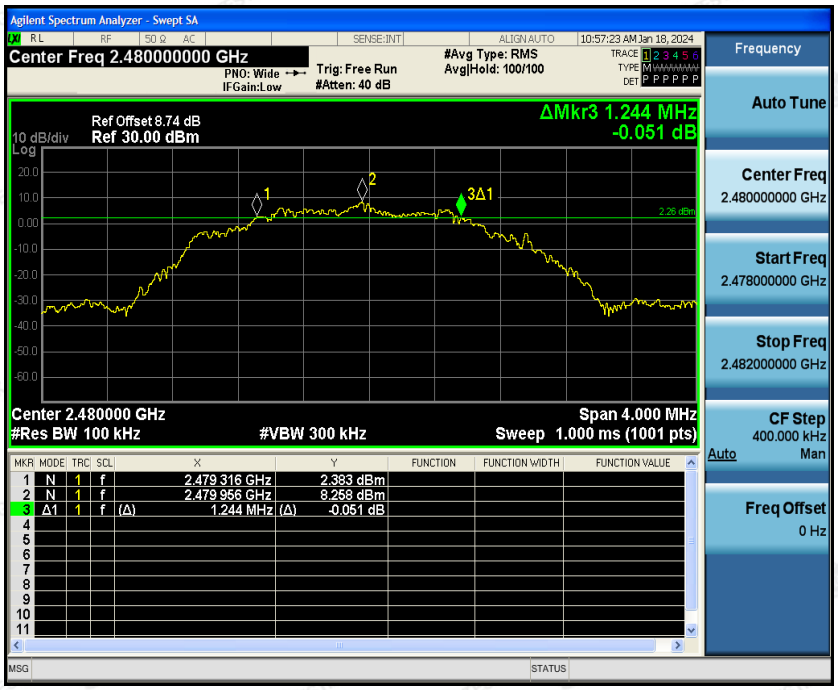
2M: CH 19

2M: CH 39



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4.7 Occupied Bandwidth

4.7.1 Test Procedure

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5% of the total mean power of the given emission. The following procedure shall be used for measuring 99% power bandwidth:
RBW=1% to 5% of the OBW
VBW=approximately 3 X RBW
Detector=Peak
Trace Mode: Max Hold
Use the 99% power bandwidth function of the instrument to measure the Occupied Bandwidth and recorded.

4.7.2 Deviation From Standard

No deviation.

4.7.3 Test Setup

4.7.4 Test Result

N/A

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4.8 Band Edge

4.8.1 Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under FCC rules in section 5.8.1, the attenuation required shall be 30 dB instead of 20 dB.

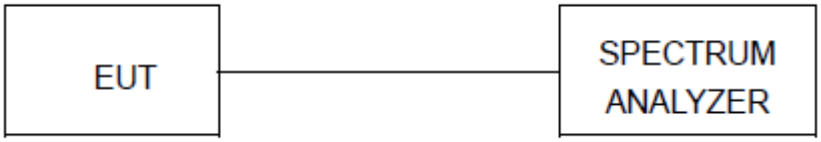
4.8.2 Test Procedure

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b. Span = wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products which fall outside of the authorized band of operation, RBW ≥ 1% of the span, VBW ≥ RBW, Sweep = auto,
Detector function = peak, Trace = max hold.

4.8.3 Deviation From Standard

No deviation.

4.8.4 Test Setup



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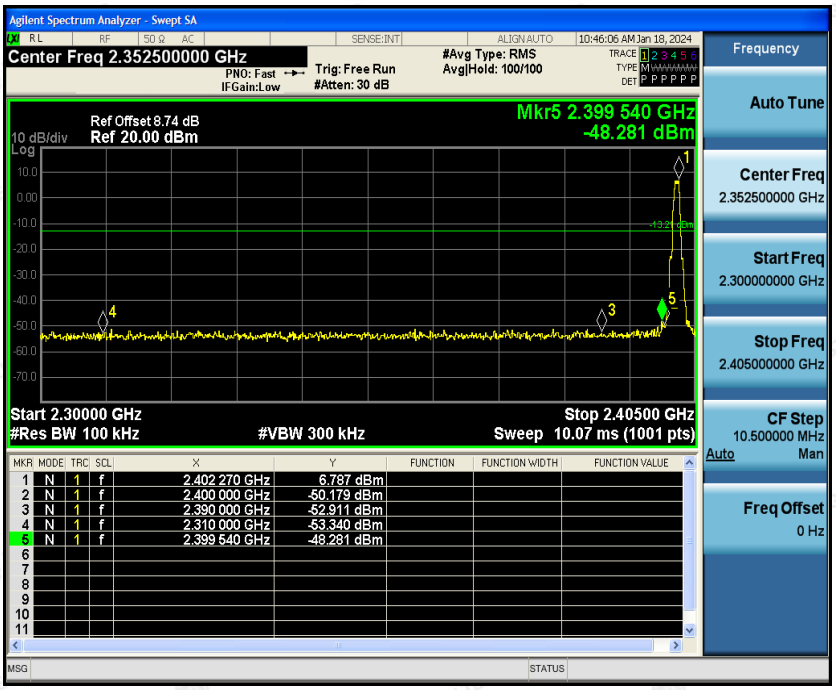
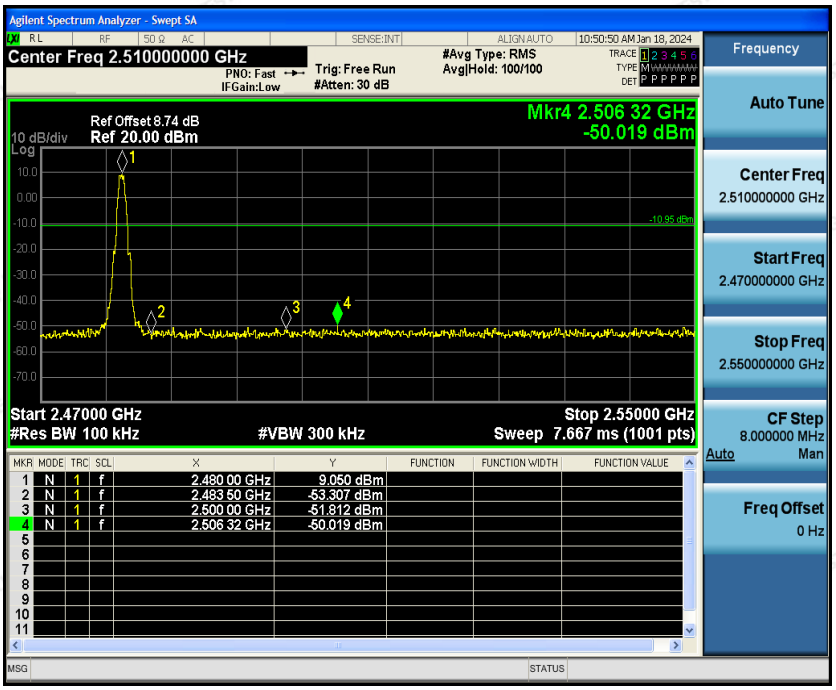
4.8.5 Test Results

PASS

1M:



2402



2480

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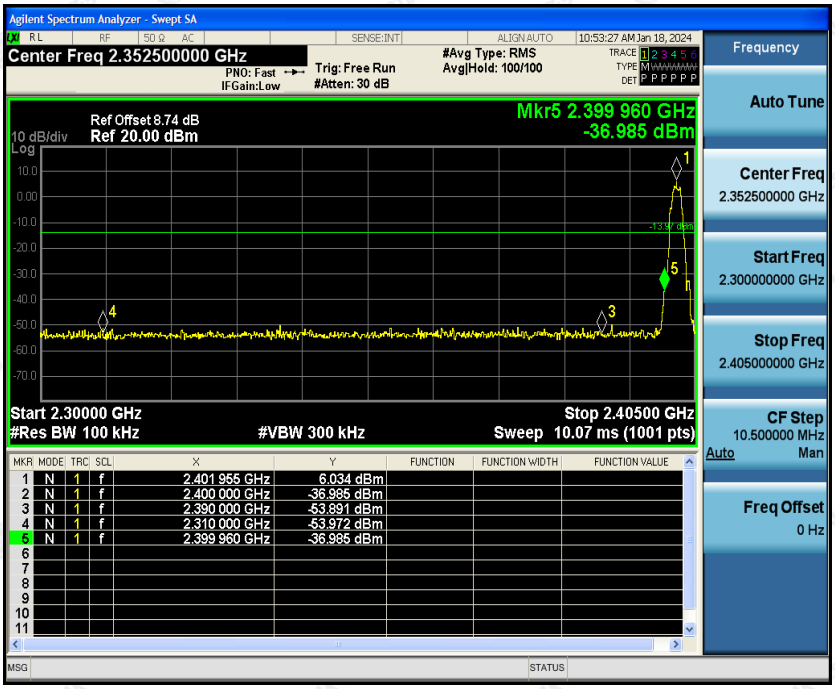
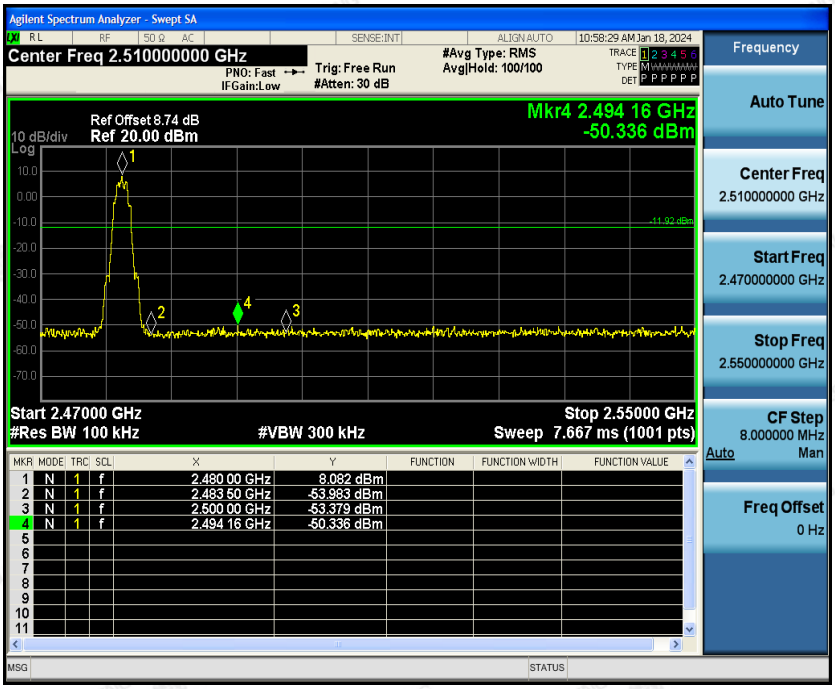
2M:



2402



2480

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4.9 Conducted Spurious Emissions

4.9.1 Applied Procedures / Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under Section (b)(3) of RSS 5.4(4), the attenuation required shall be 30 dB instead of 20 dB.
For below 30MHz,For 9KHz-150kHz,150K-10MHz,We use the RBW 1KHz,10KHz, So the limit need to calculated by “10lg(BW1/BW2)“. for example For9KHz-150kHz,RBW 1KHz, The Limit= the highest emission level-20-10log(100/1)= the highest emission level-40.

4.9.2 Test Procedure

a.The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below.
b.Span = wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products which fall outside of the authorized band of operation, RBW ≥ 1% of the span, VBW ≥ RBW, Sweep = auto,
Detector function = peak, Trace = max hold.

4.9.3 Deviation From Standard

No deviation.

4.9.4 Test Setup

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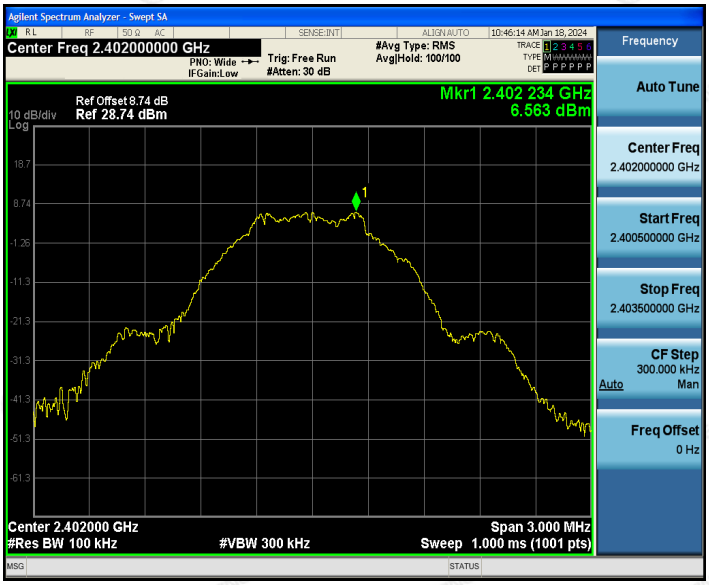
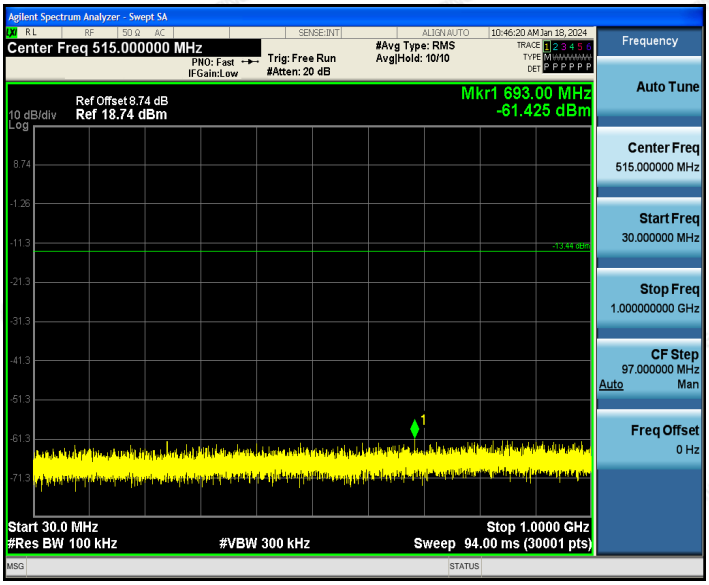
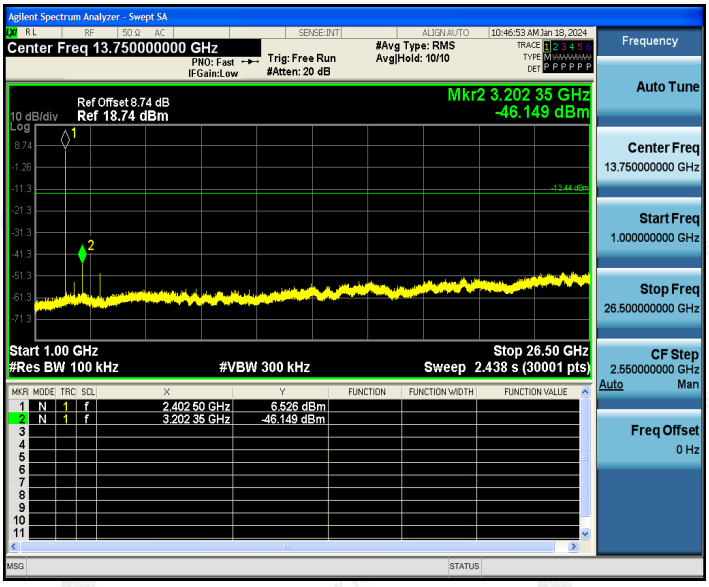
4.9.5 Test Results

1M: CH 00







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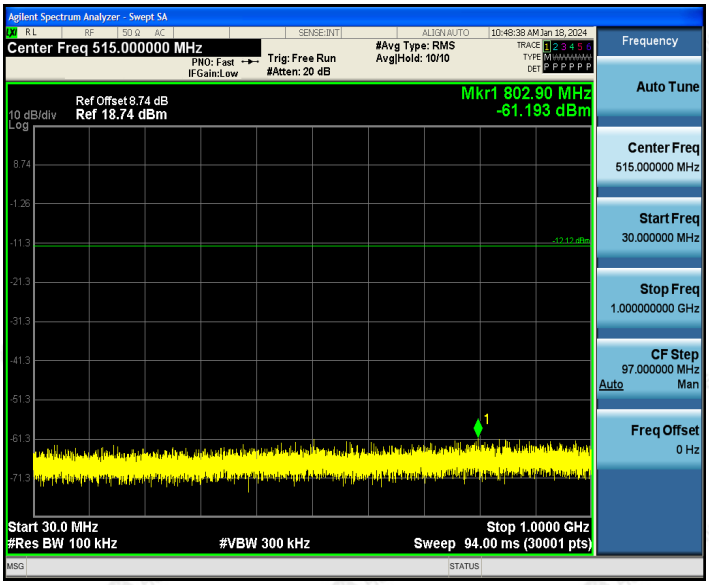
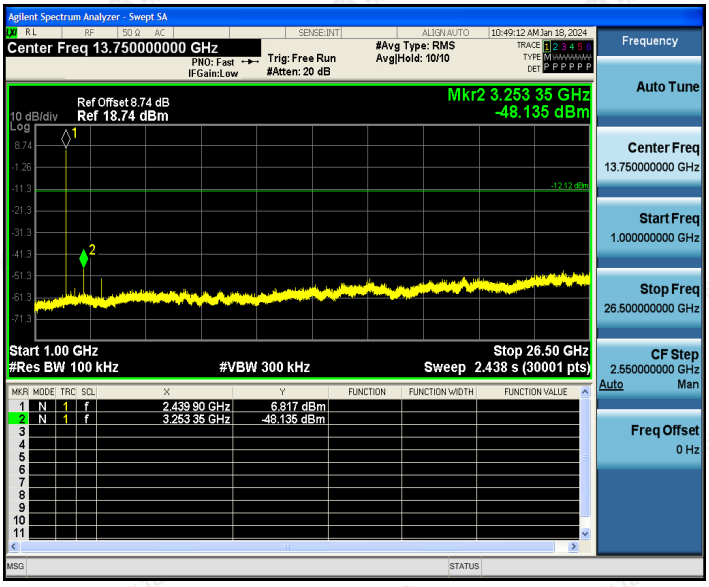
1M: CH 19





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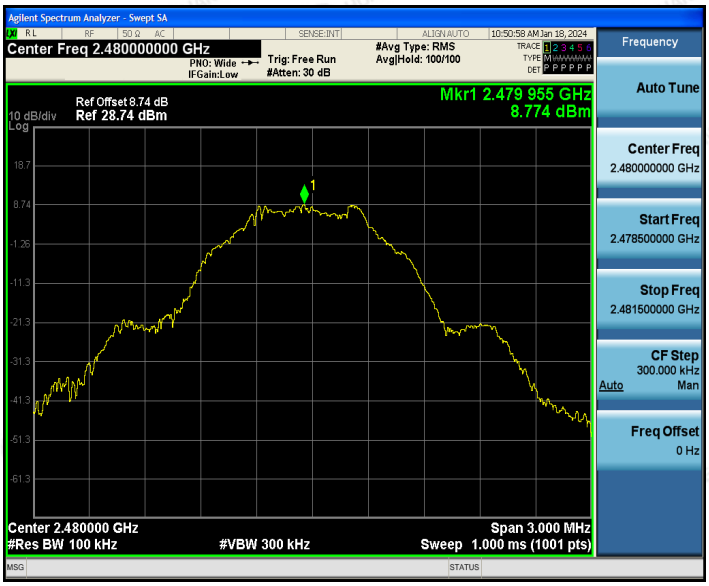
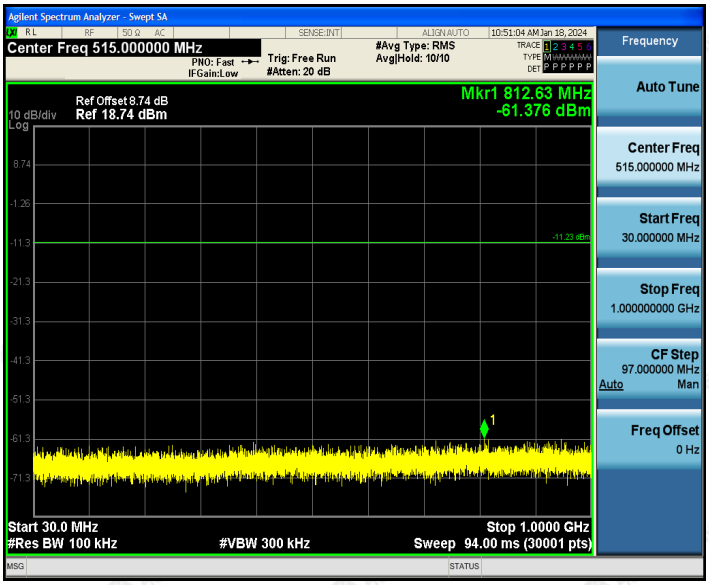
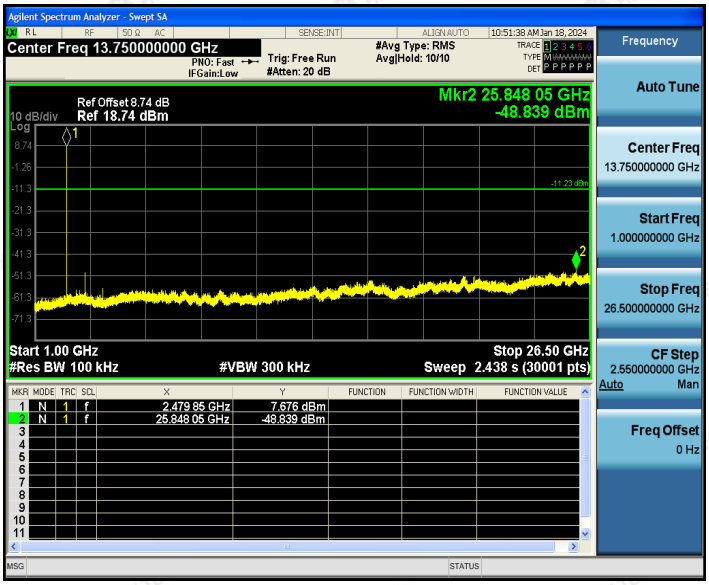
1M: CH 39







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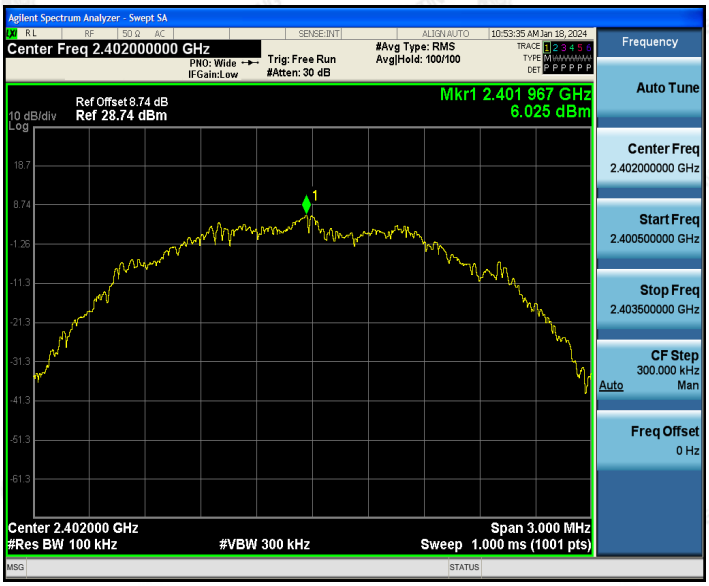
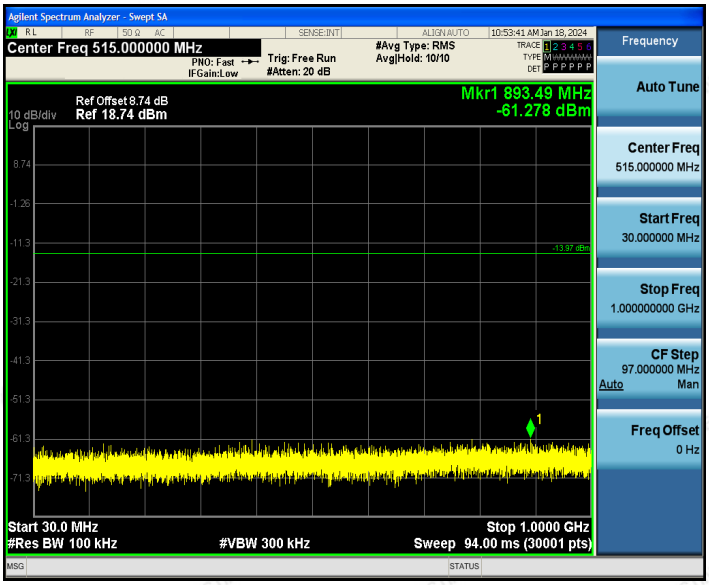
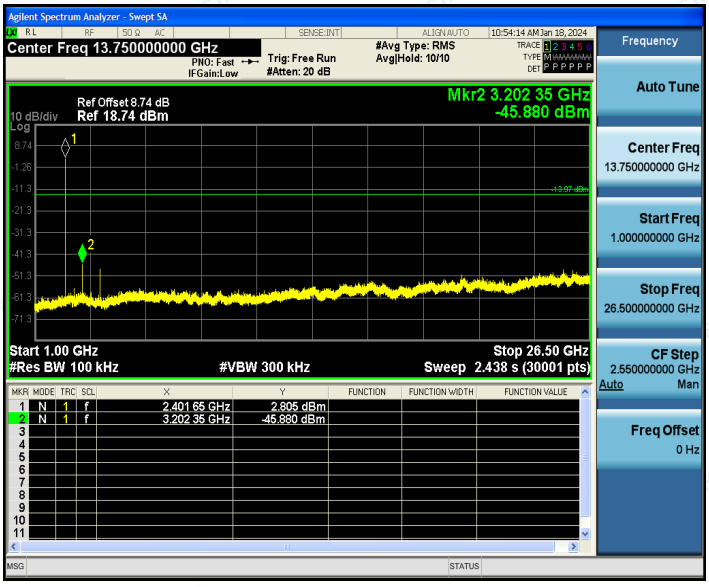
2M: CH 00







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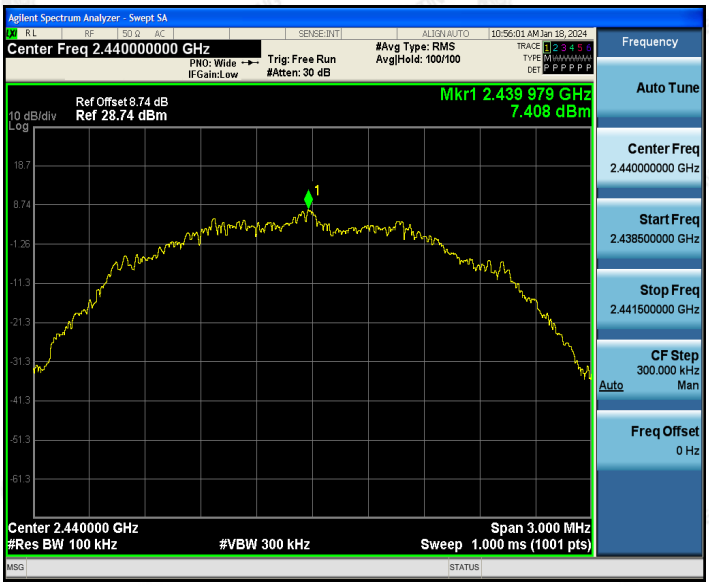
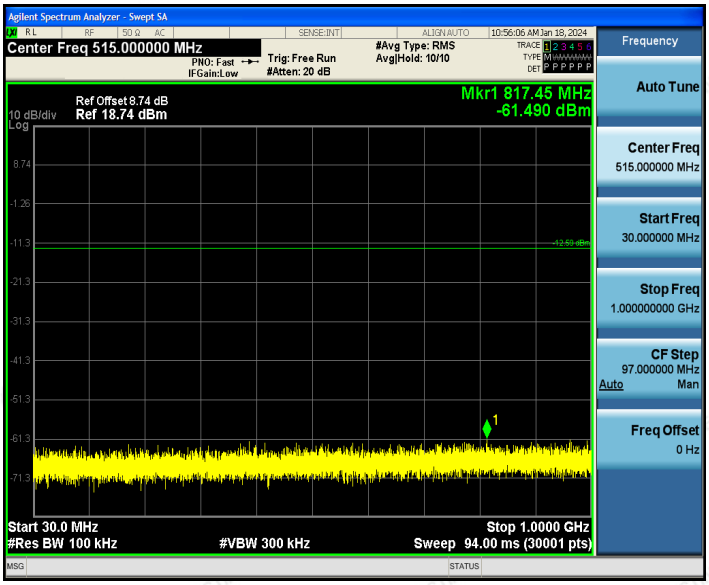
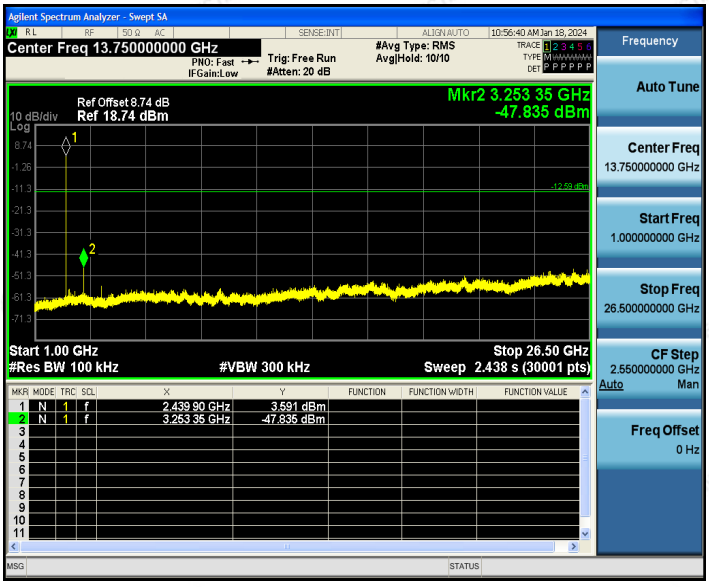
2M: CH 19







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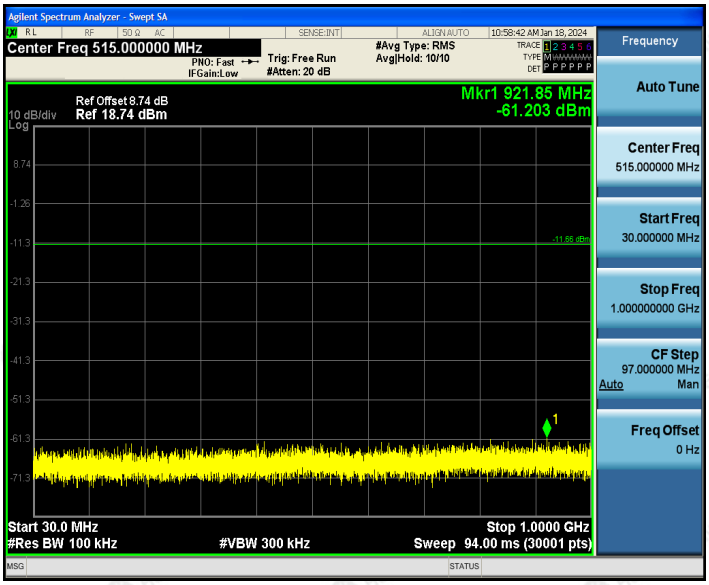
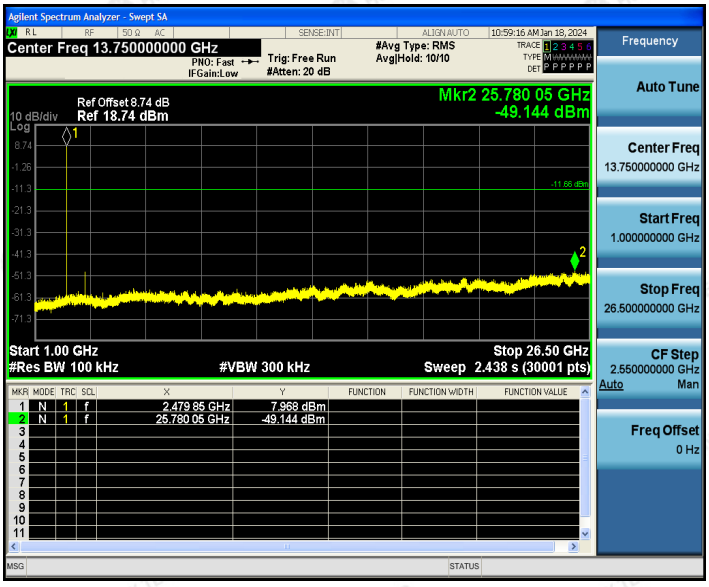
2M: CH 39





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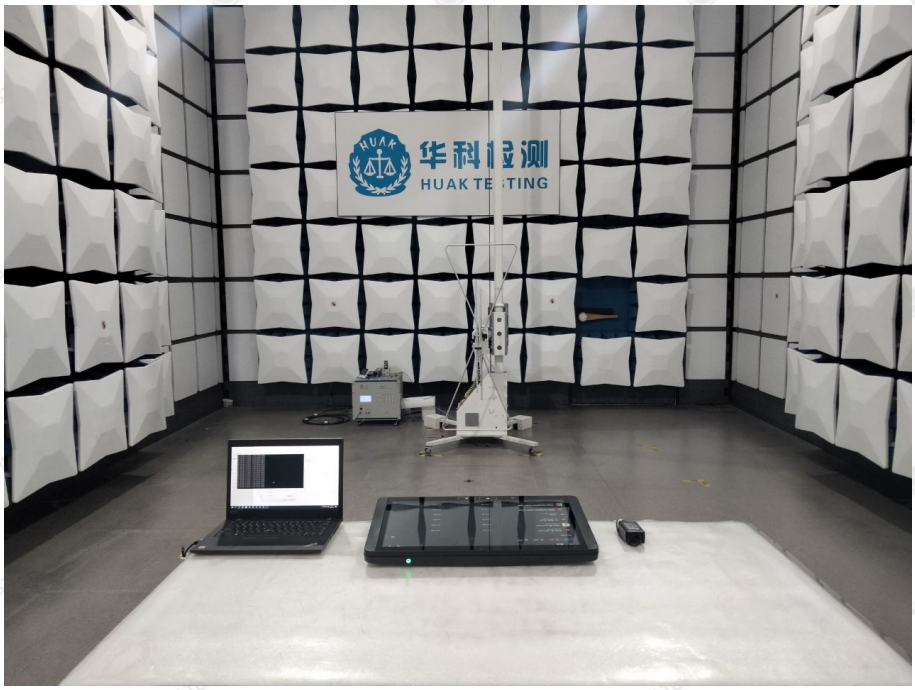
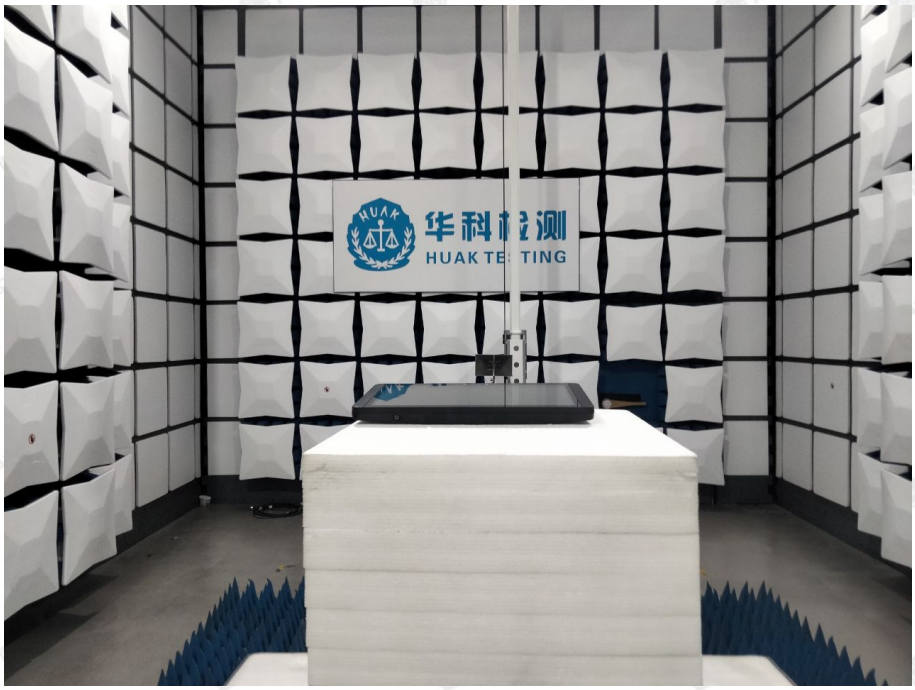
5 Test Setup Photo

Radiated Emissions





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Conducted Emission

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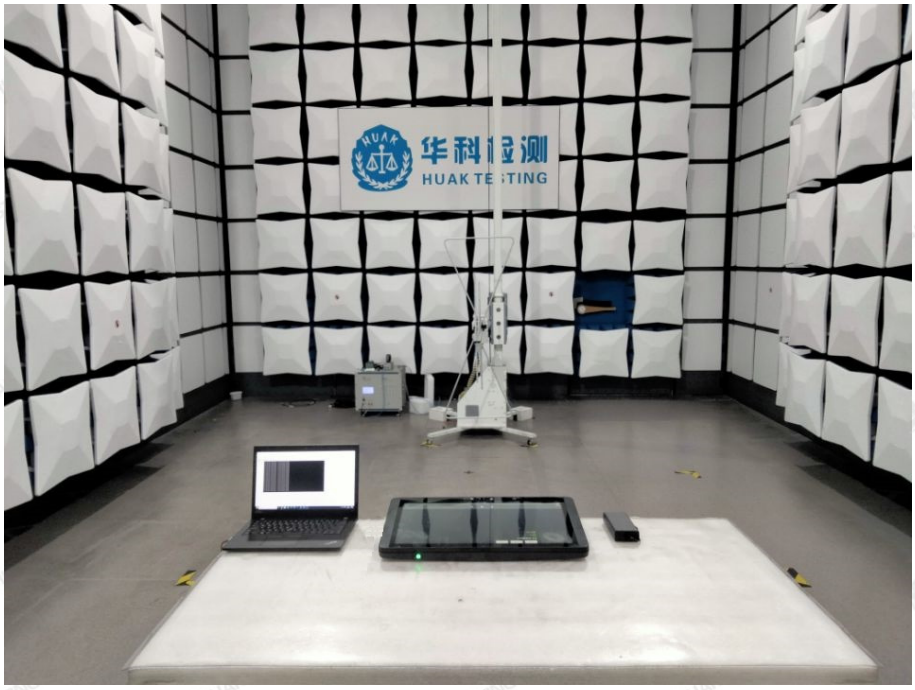
Add adapter 2:

Radiated Emissions



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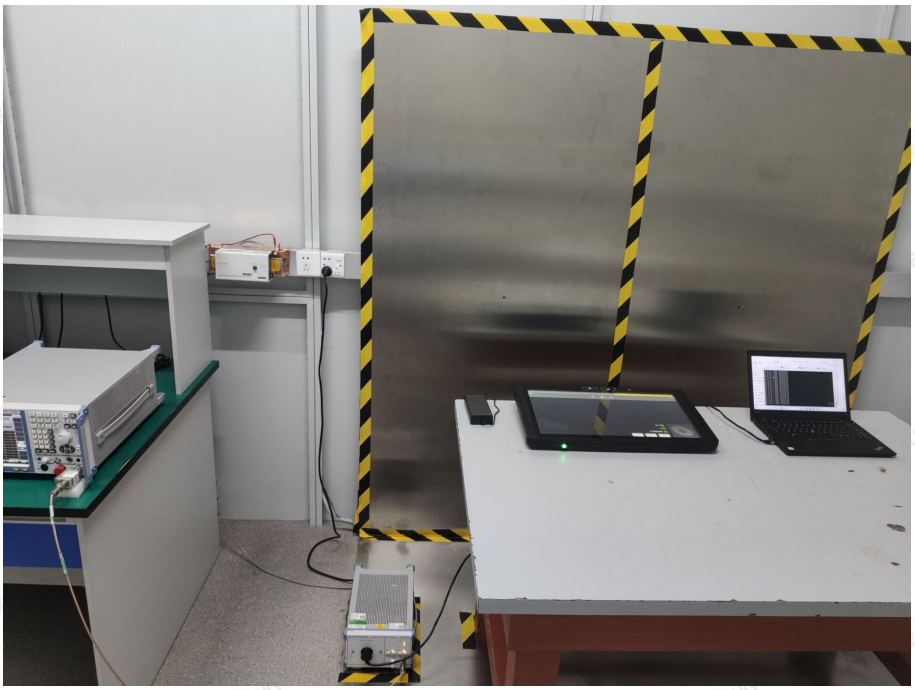
Conducted Emission



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6 Photos of the EUT

Reference to the report: ANNEX A of external photos and ANNEX B of internal photos.

---------End of test report---------

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