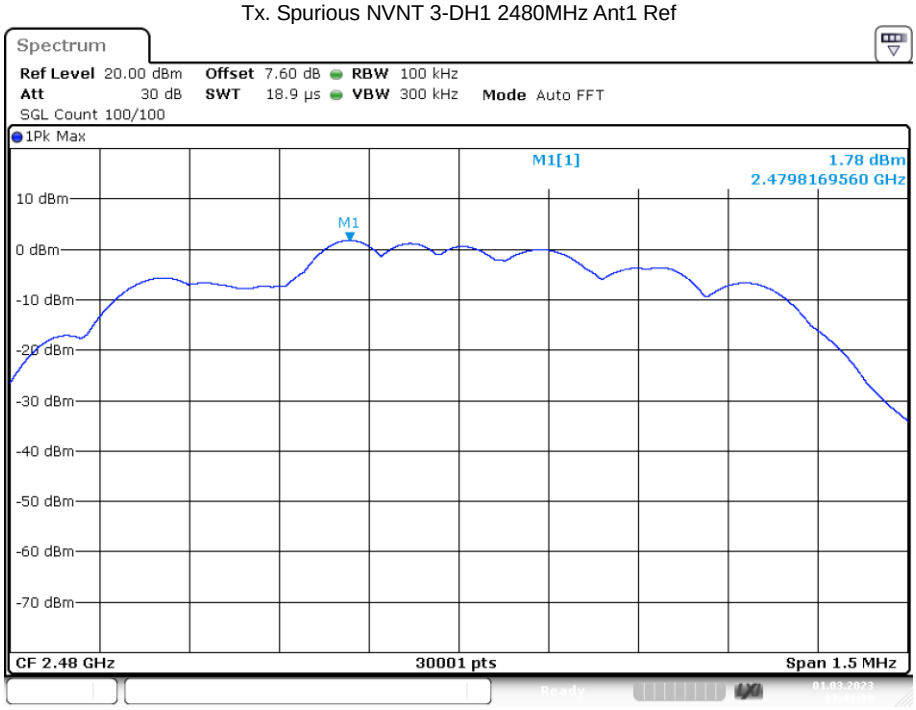
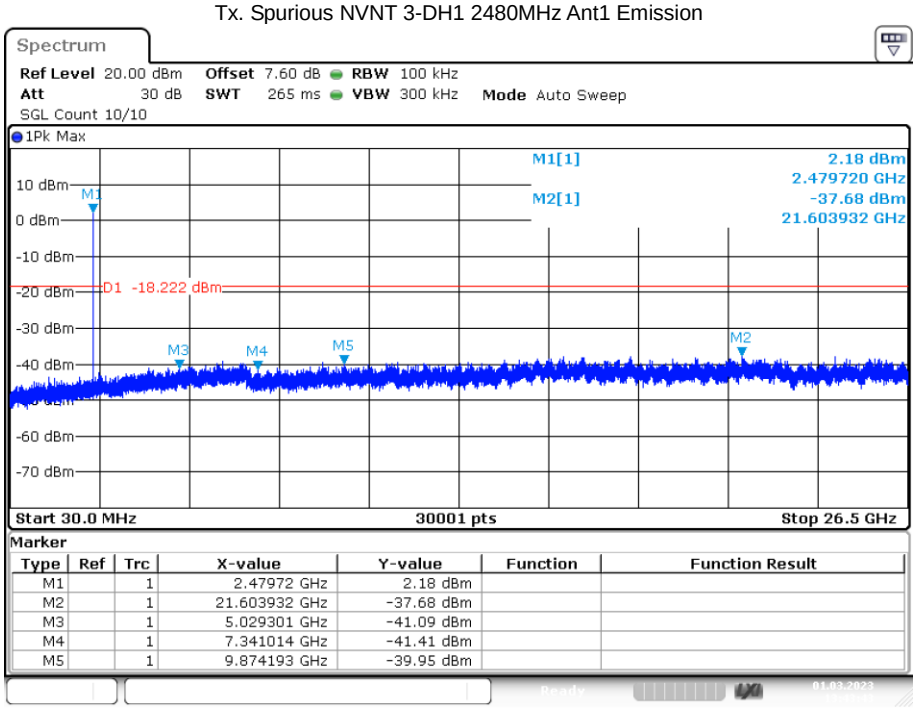
Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Ref



Date: 1.MAR.2023 13:43:29

Tx. Spurious NVNT 3-DH1 2480MHz Ant1 Emission



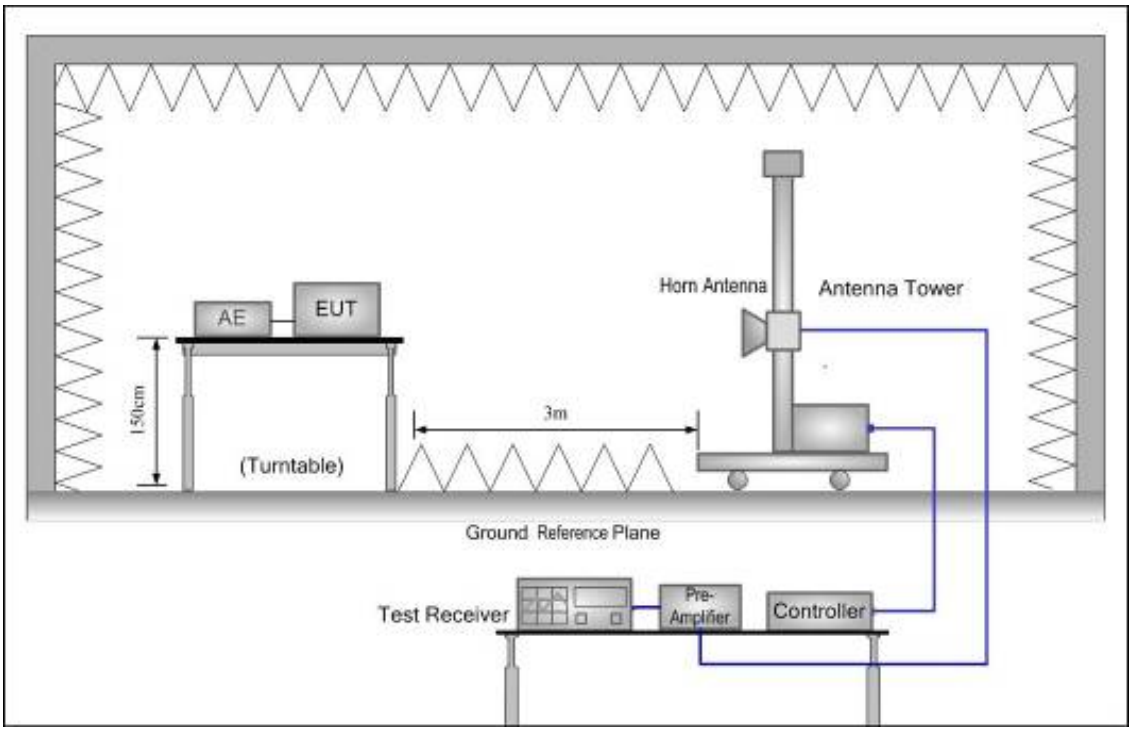
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	2.47972 GHz	2.18 dBm		
M2		1	21.603932 GHz	-37.68 dBm		
M3		1	5.029301 GHz	-41.09 dBm		
M4		1	7.341014 GHz	-41.41 dBm		
M5		1	9.874193 GHz	-39.95 dBm		

Date: 1.MAR.2023 13:43:43

9. BAND EDGE COMPLIANCE

9.1. Block Diagram of Test Setup



9.2. Limit

All the lower and upper band-edges emissions appearing within restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

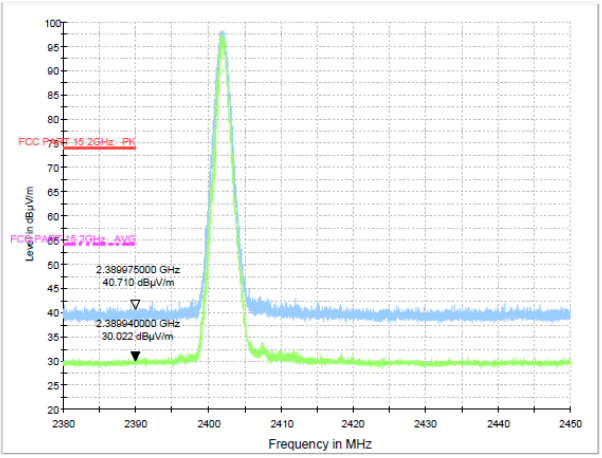
9.3. Test Procedure

All restriction band and non- restriction band have been tested ， only worse case is reported.

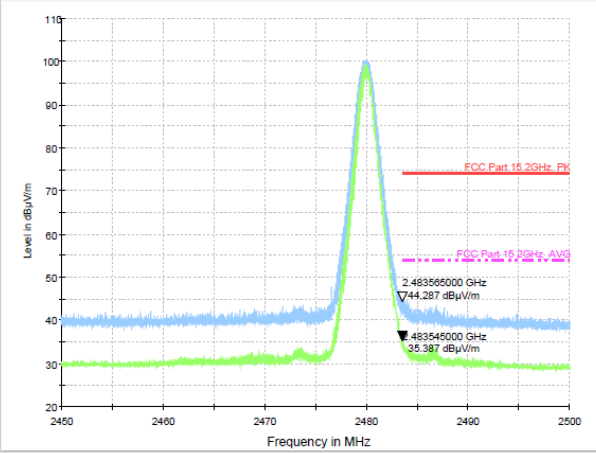
9.4. Test Result

PASS. (See below detailed test data)

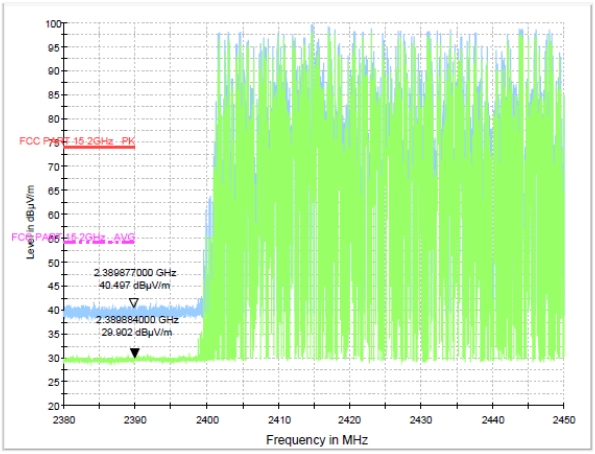
Test Mode: GFSK-Low Hopping-off



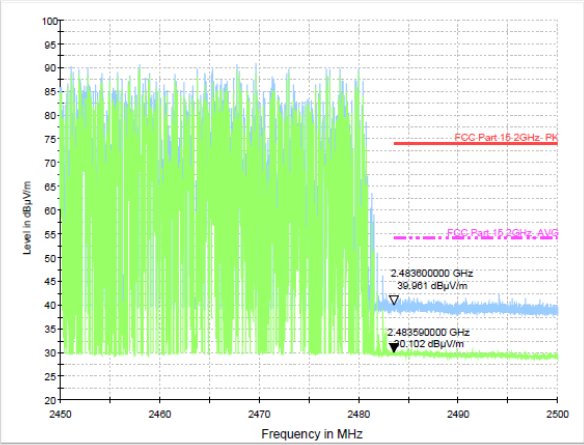
Test Mode: GFSK-High Hopping-off



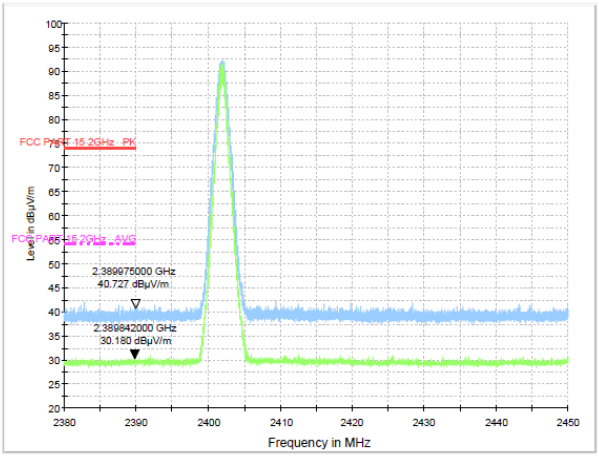
Test Mode: GFSK-Low Hopping-on



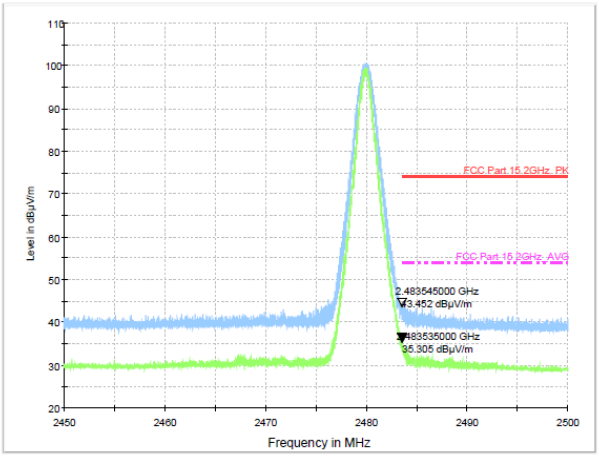
Test Mode: GFSK-High Hopping-on



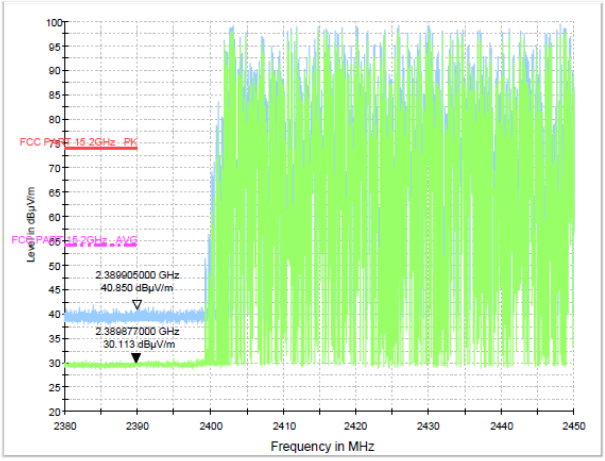
Test Mode: π/4 DQPSK-Low Hopping-off



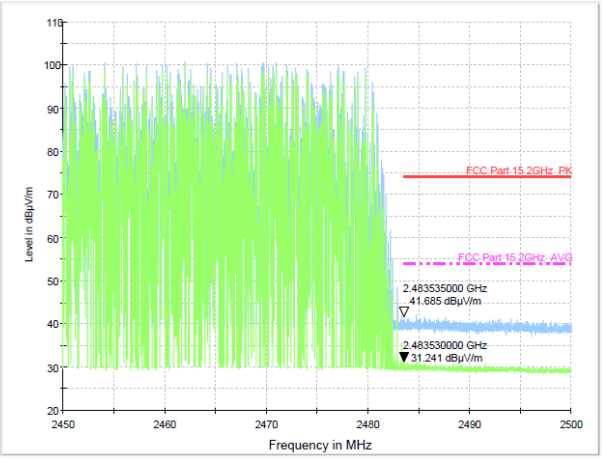
Test Mode: π/4 DQPSK-High Hopping-off



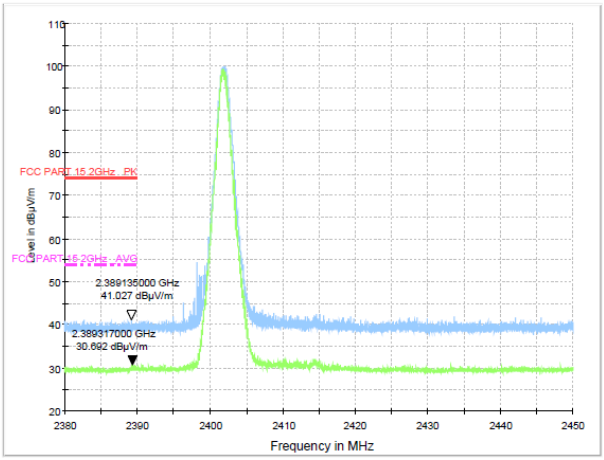
Test Mode: π/4 DQPSK-Low Hopping-on



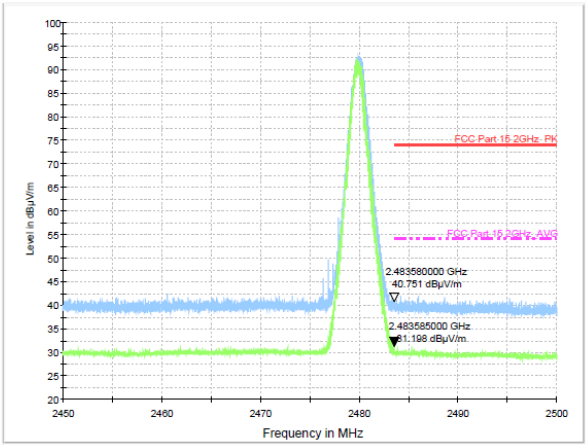
Test Mode: π/4 DQPSK-High Hopping-on



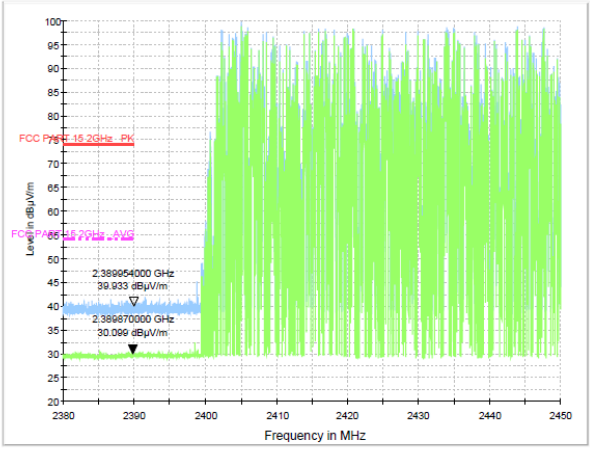
Test Mode: 8DPSK-Low Hopping-off



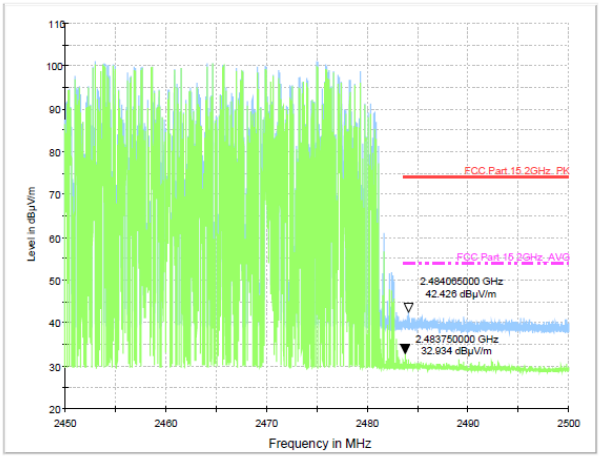
Test Mode: 8DPSK-High Hopping-off



Test Mode: 8DPSK-Low Hopping-on

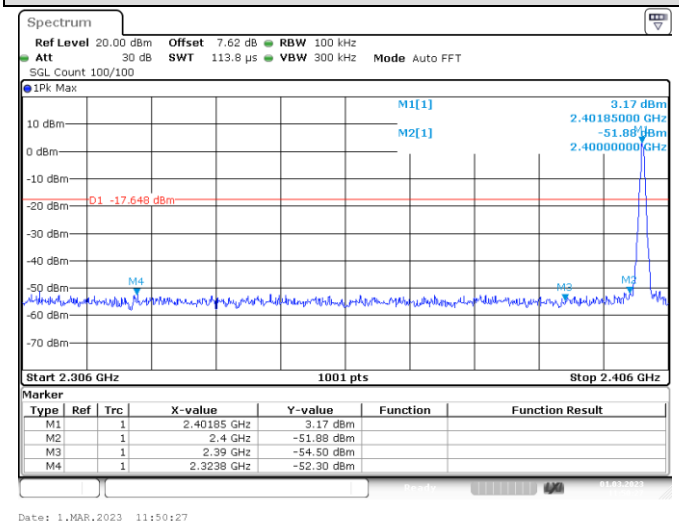
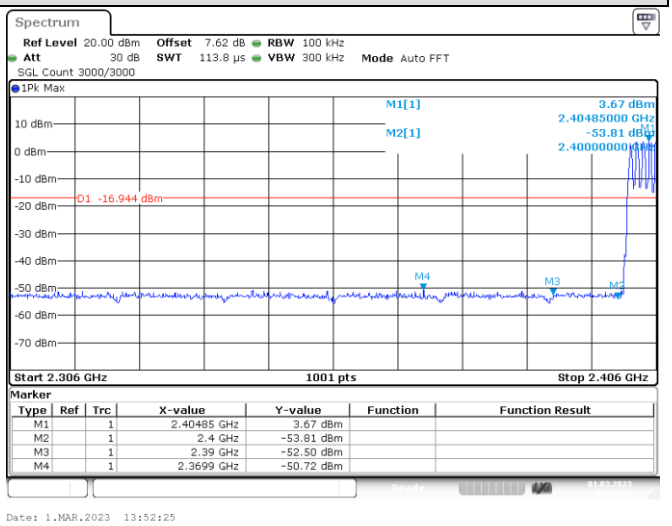


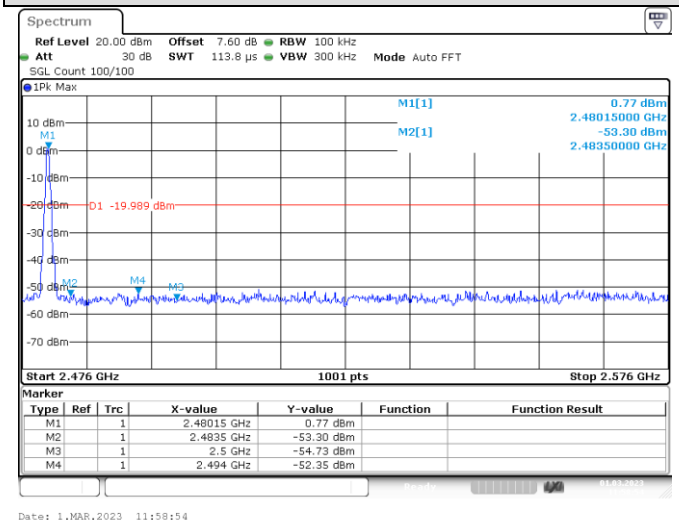
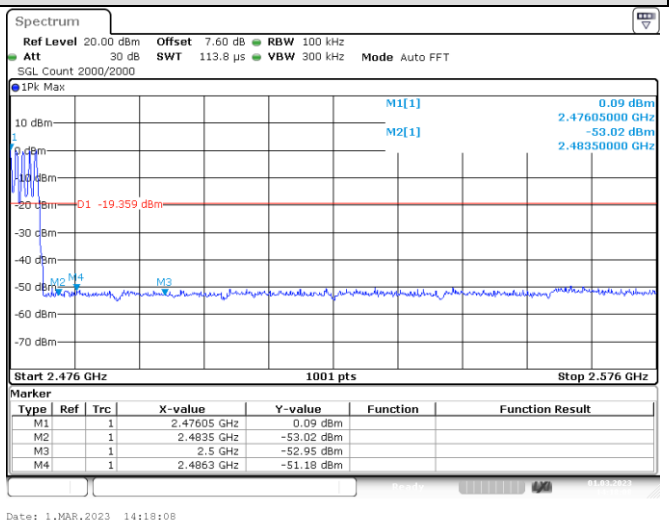
Test Mode: 8DPSK-High Hopping-on



Conducted Method

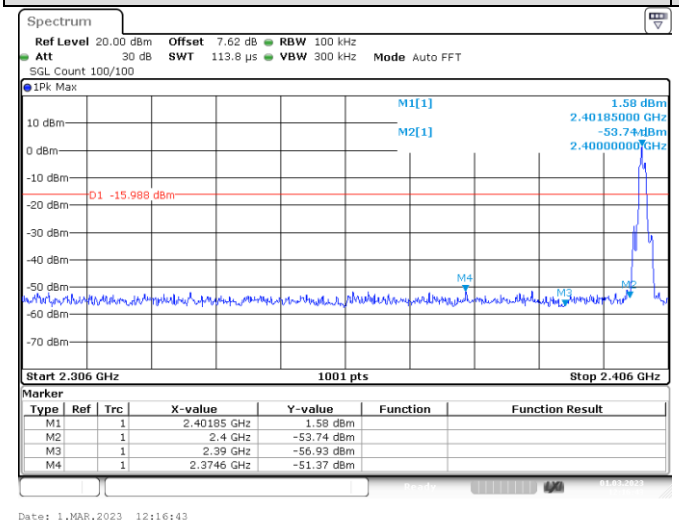
GFSK Mode:

Test channel:	Lowest channel
	
No-hopping mode	Hopping mode

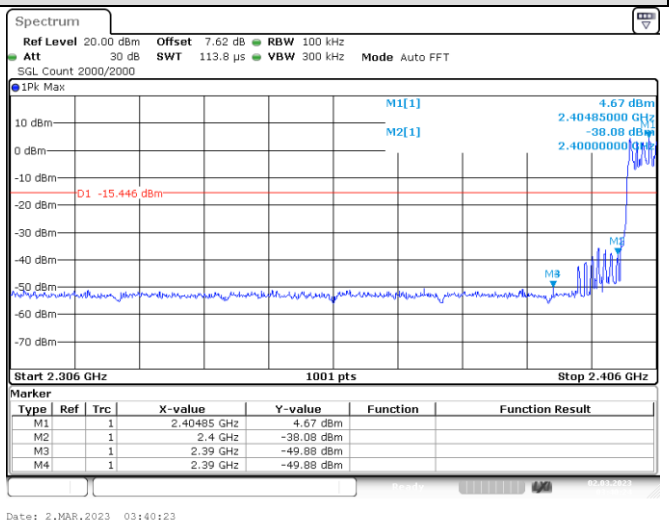
Test channel:	Highest channel
	
No-hopping mode	Hopping mode

π/4DQPSK Mode:

Test channel:	Lowest channel

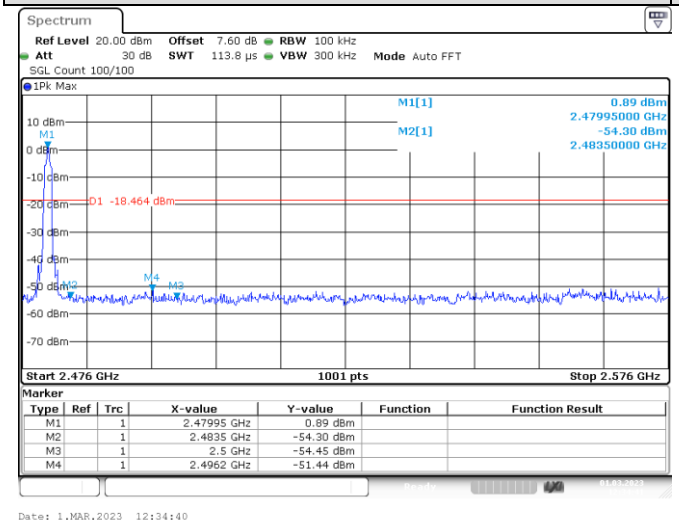


No-hopping mode

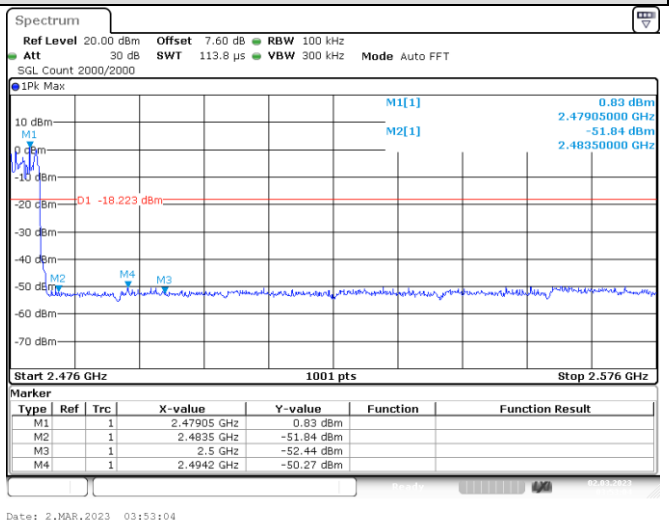


Hopping mode

Test channel:	Highest channel

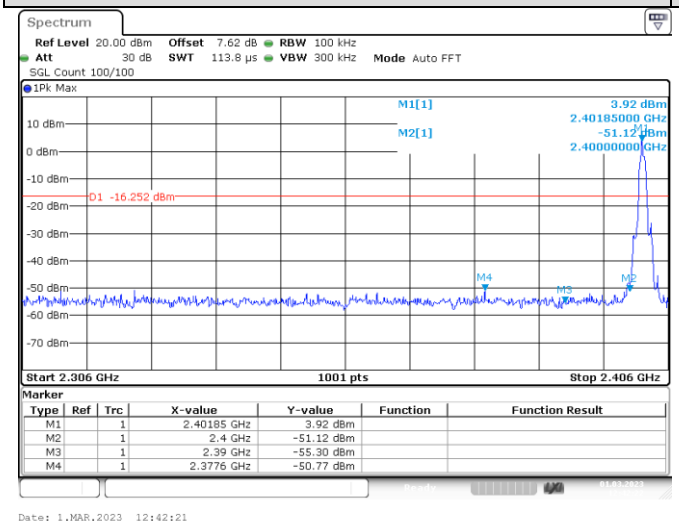
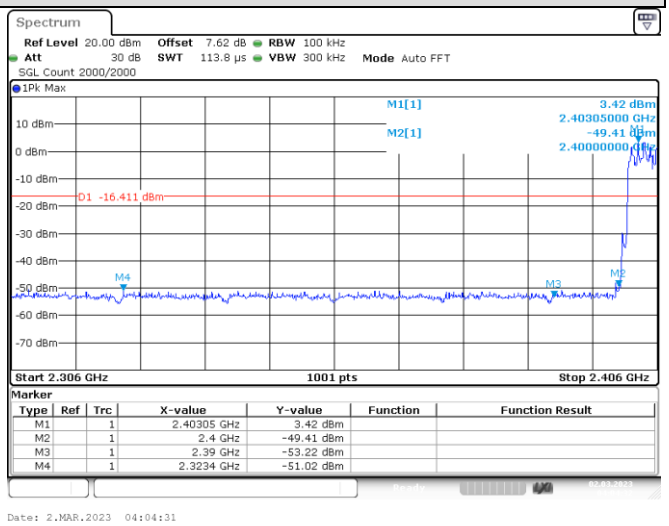


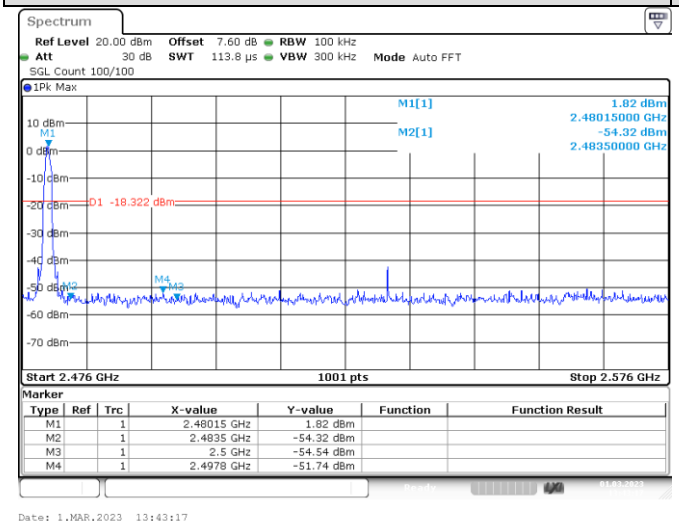
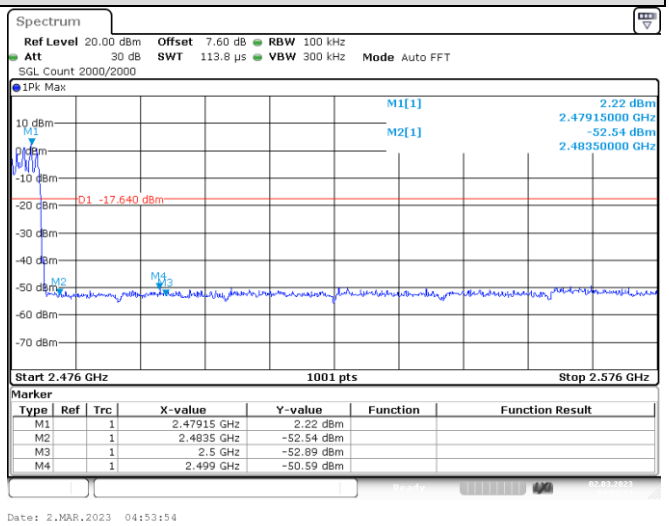
No-hopping mode



Hopping mode

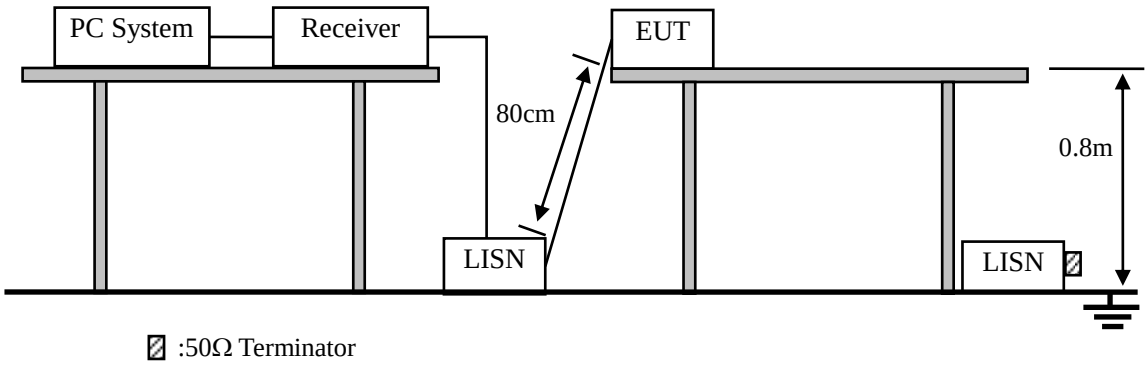
8DPSK Mode:

Test channel:	Lowest channel
	
No-hopping mode	Hopping mode

Test channel:	Highest channel
	
No-hopping mode	Hopping mode

10. POWER LINE CONDUCTED EMISSIONS

10.1.Block Diagram of Test Setup



10.2.Limit

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. * Decreasing linearly with logarithm of frequency.
2. The lower limit shall apply at the transition frequencies.

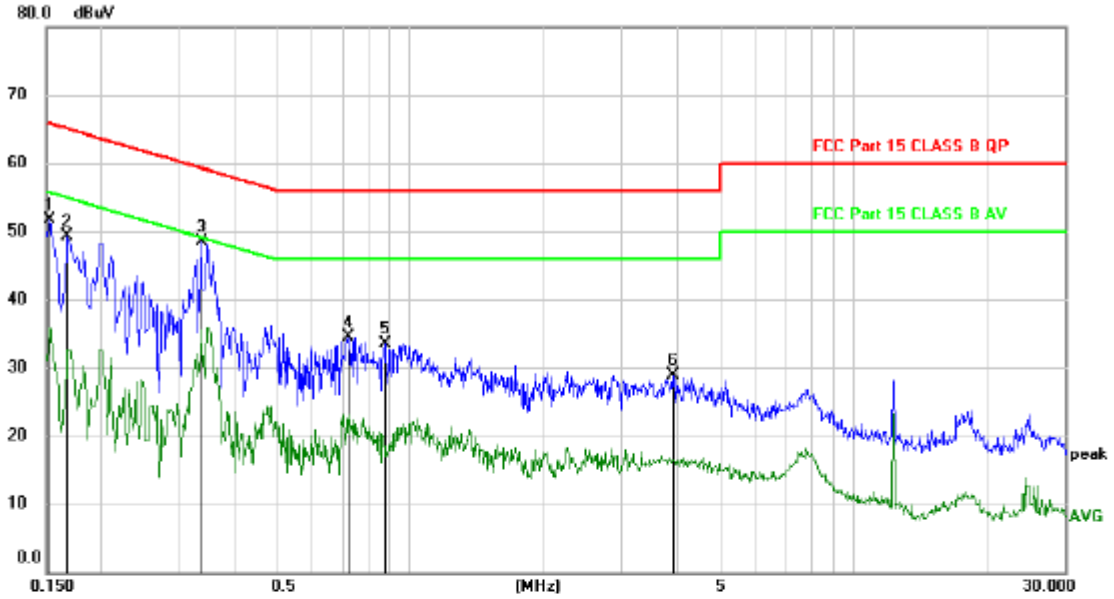
10.3.Test Procedure

(1) The EUT was placed on a non-metallic table, 80cm above the ground plane.
(2) Setup the EUT and simulator as shown in 10.1
(3) The EUT Power connected to the power mains through a power adapter and a line impedance stabilization network (L.I.S.N1). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N2), this provided a 50-ohm coupling impedance for the EUT (Please refer to the block diagram of the test setup and photographs). Both sides of power line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10 :2013on conducted Emission test.
(4) The bandwidth of test receiver is set at 10KHz.
(5) The frequency range from 150 KHz to 30MHz is checked.

10.4.Test Result

PASS. (See below detailed test data)
Note: If peak Result comply with AV limit, QP and AV Result is deemed to comply with AV limit

Line:

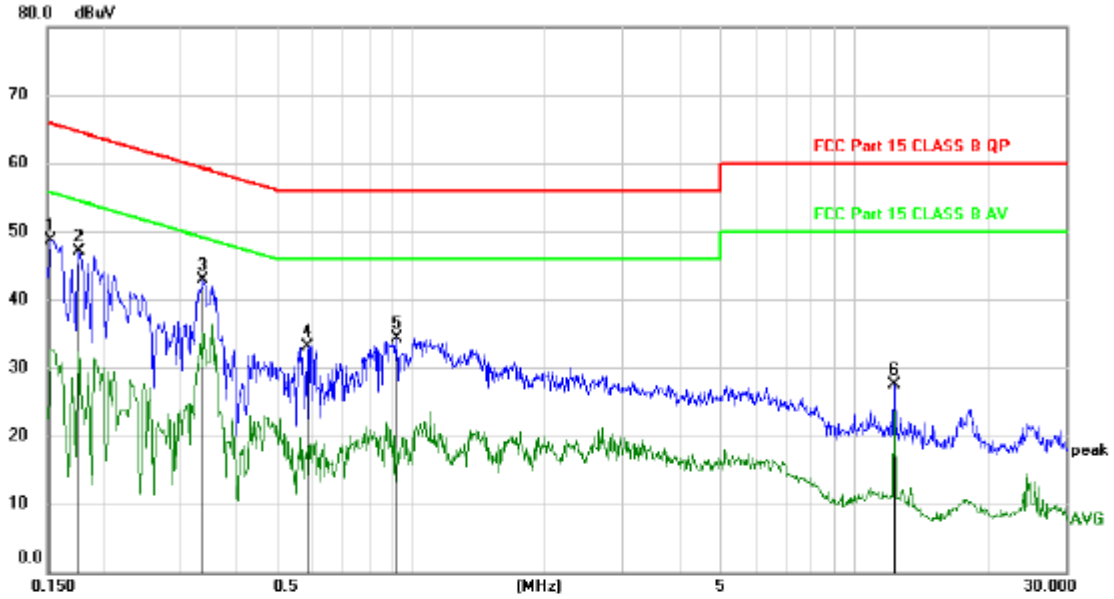


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1530	41.83	9.94	51.77	65.84	-14.07	peak	
2		0.1680	39.37	9.93	49.30	65.06	-15.76	peak	
3	*	0.3360	38.50	9.94	48.44	59.30	-10.86	peak	
4		0.7260	24.54	9.93	34.47	56.00	-21.53	peak	
5		0.8730	23.63	9.96	33.59	56.00	-22.41	peak	
6		3.9150	19.00	9.96	28.96	56.00	-27.04	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

Note: Measurement=Reading Level+Correc Factor. Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

Neutral:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1530	38.79	9.94	48.73	65.84	-17.11	peak	
2		0.1770	37.26	9.93	47.19	64.63	-17.44	peak	
3	*	0.3390	32.90	9.94	42.84	59.23	-16.39	peak	
4		0.5820	23.21	9.93	33.14	56.00	-22.86	peak	
5		0.9240	24.38	9.96	34.34	56.00	-21.66	peak	
6		12.2880	17.26	10.26	27.52	60.00	-32.48	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

Note: Measurement=Reading Level+Correc Factor. Factor=(LISN or ISN or PLC or Current Probe)Factor+Cable

Note: All modes and channels have been tested and only the GFSK 2402MHz mode with the worst data is listed.

11. ANTENNA REQUIREMENTS

11.1. Limit

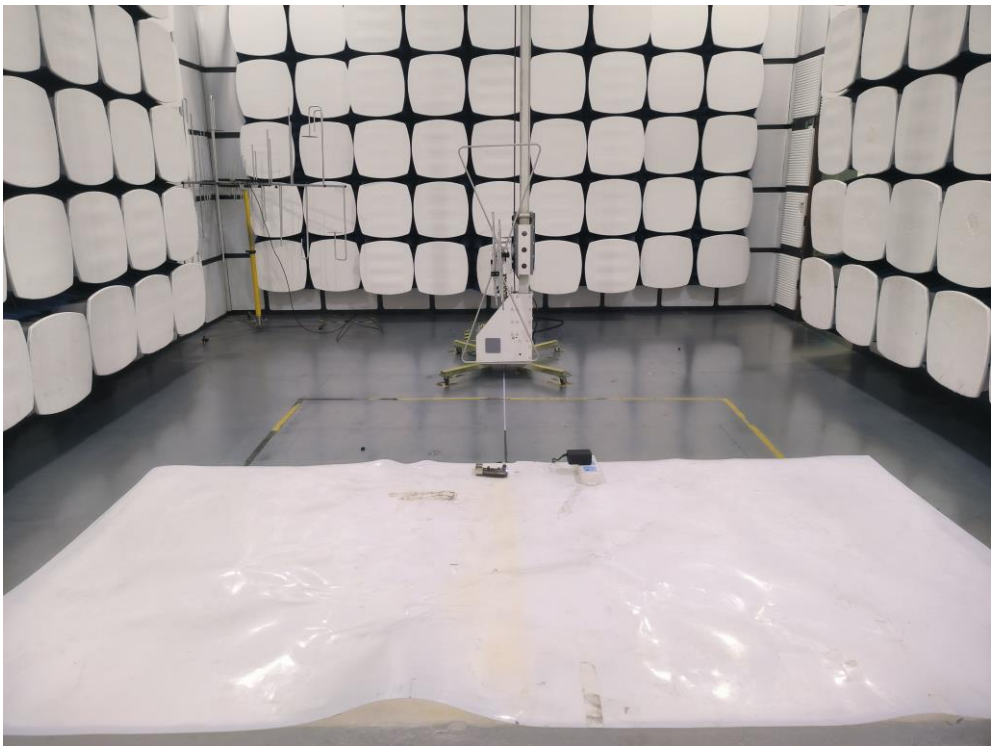
For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

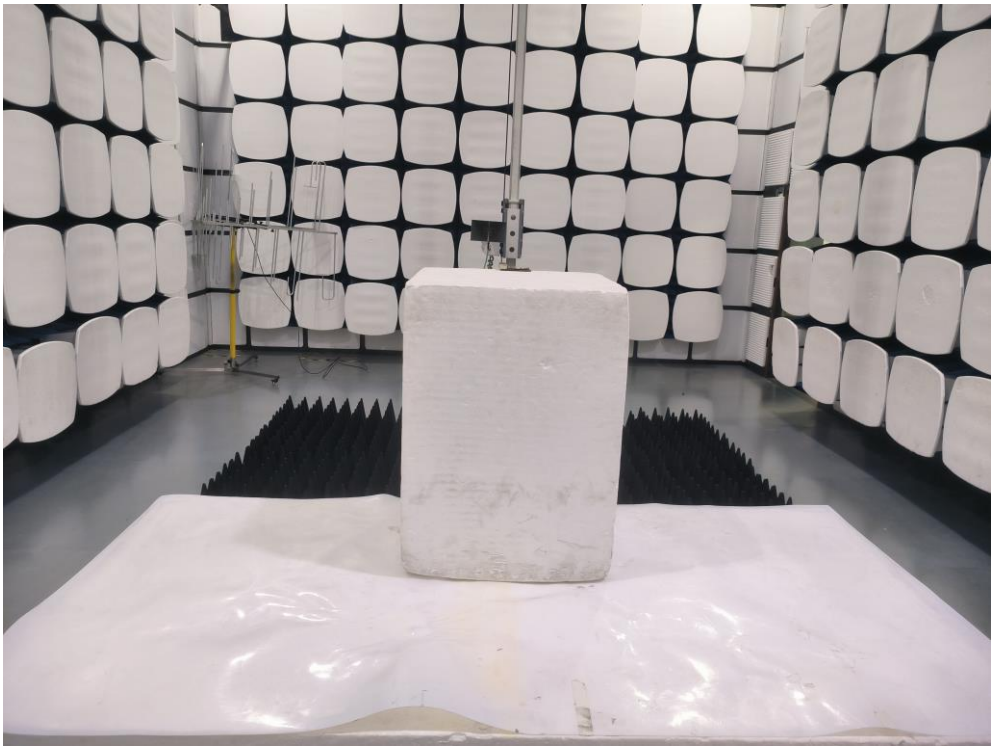
11.2. Result

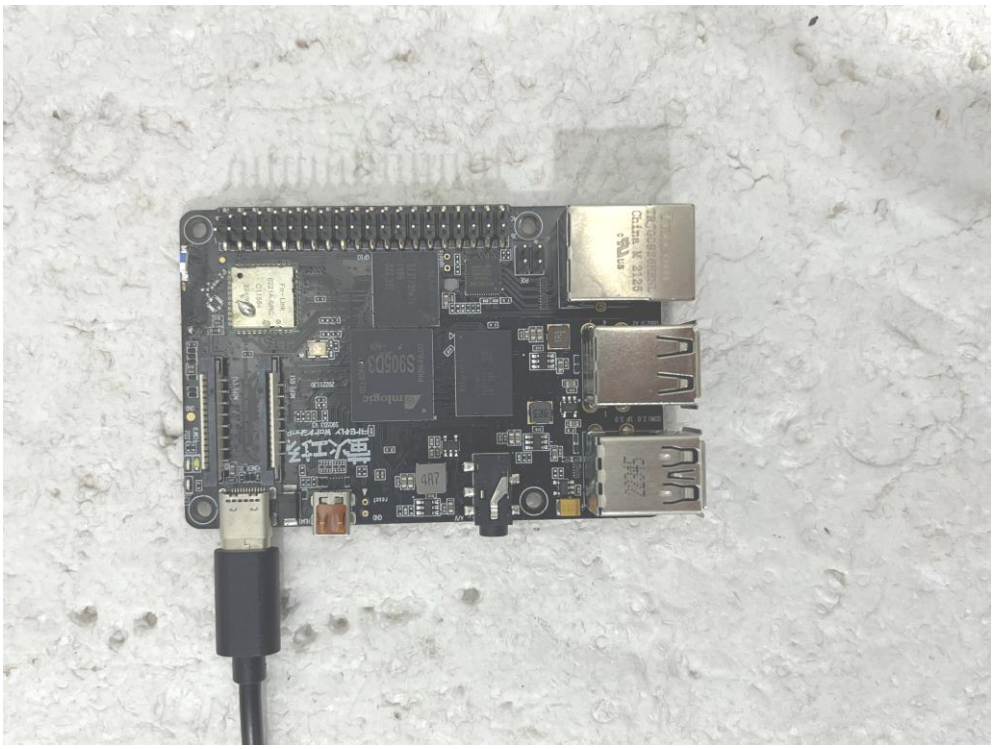
The use of an antenna that is uniquely coupled to the intended radiator shall be considered sufficient to comply with the provisions of this section.

12. TEST SETUP PHOTO

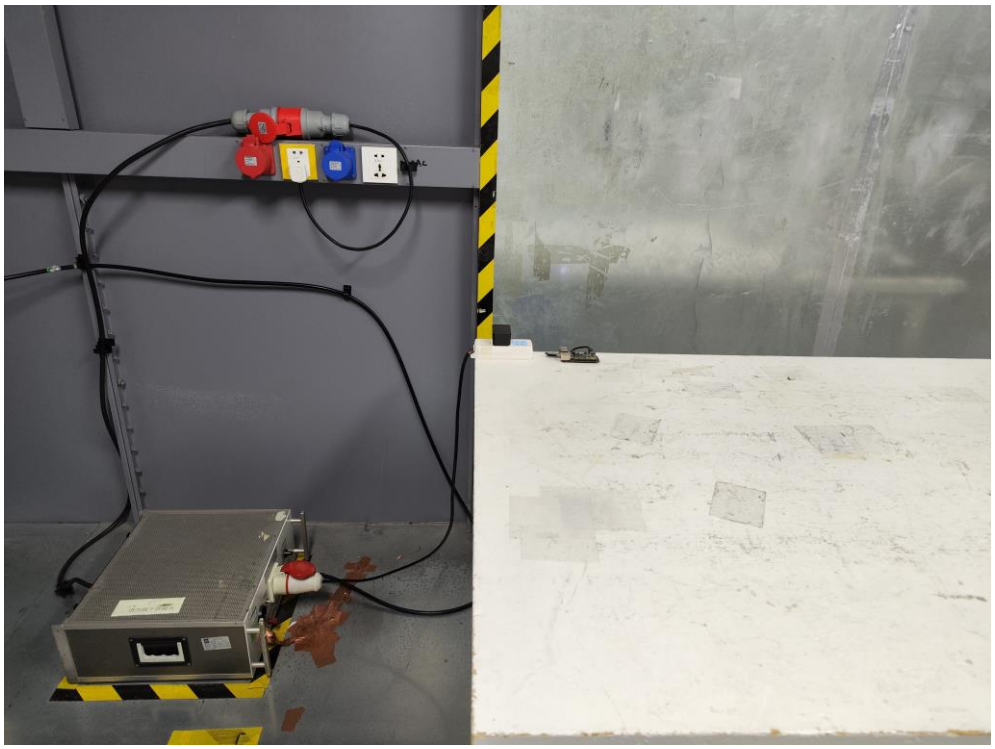
12.1. Photo of Radiated Emission test



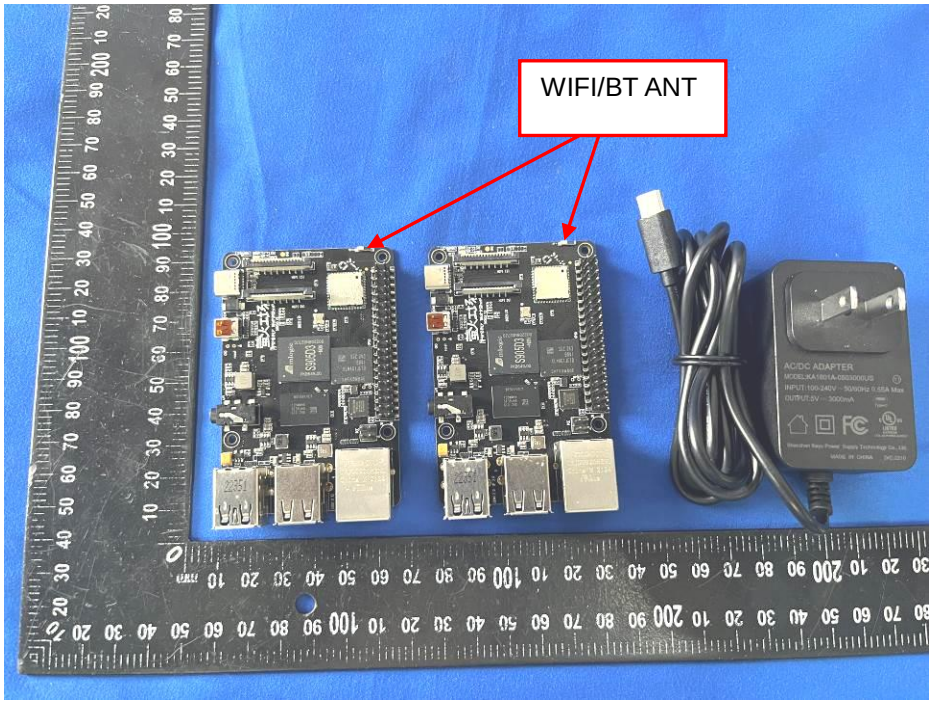


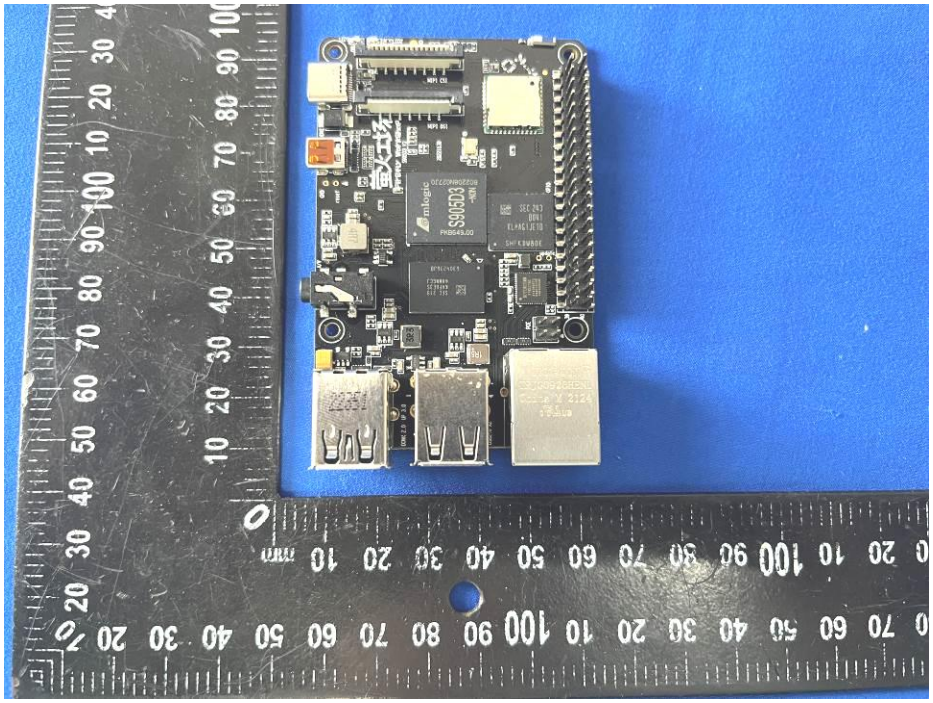


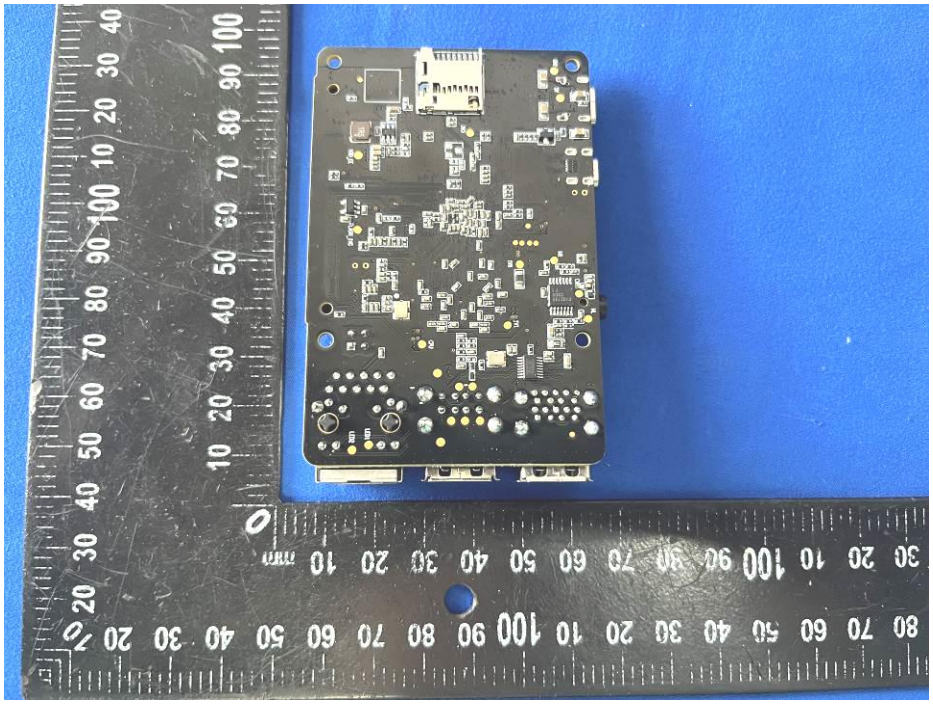
12.2.Photo of Conducted Emission test

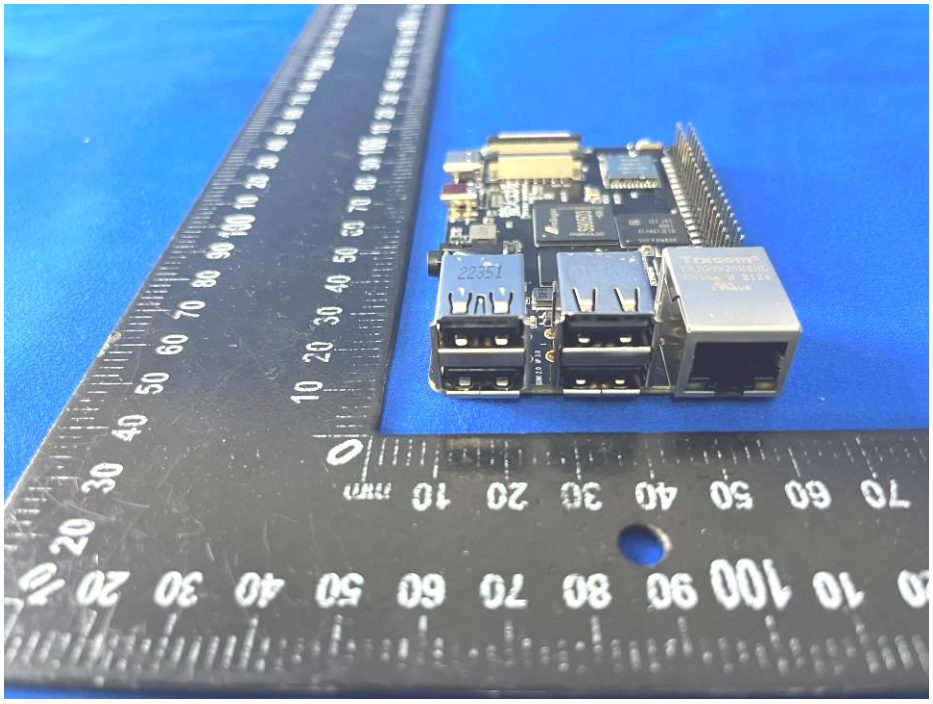


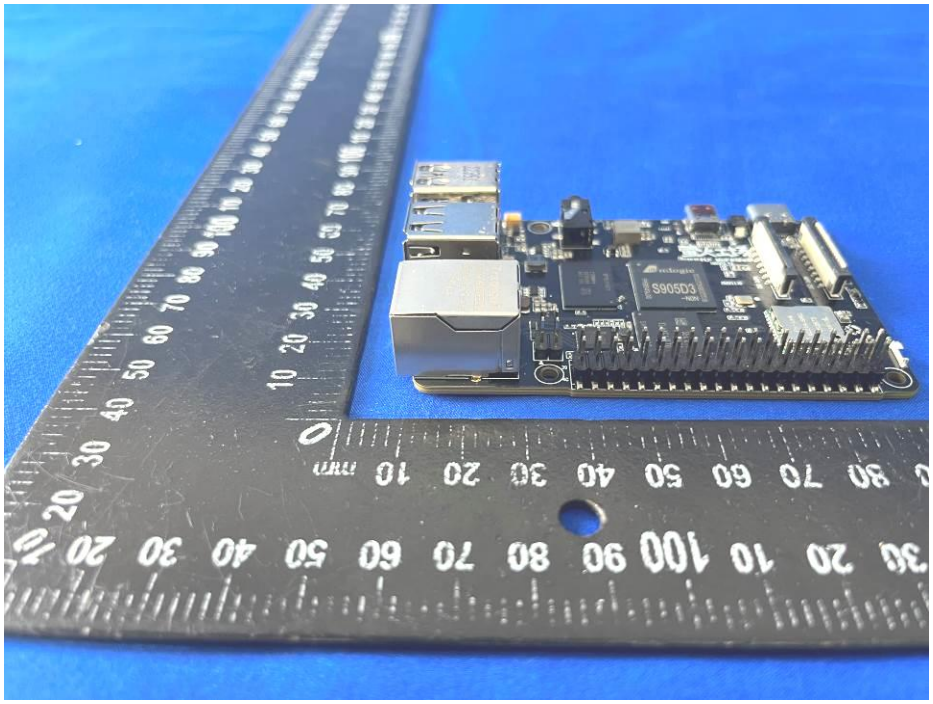
13. EUT Photo

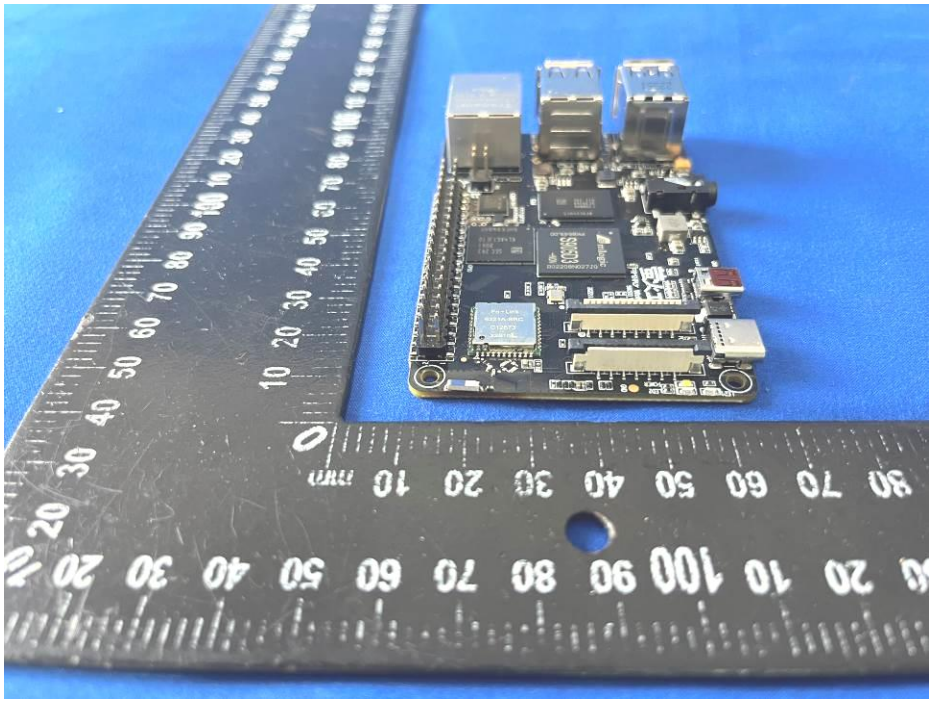


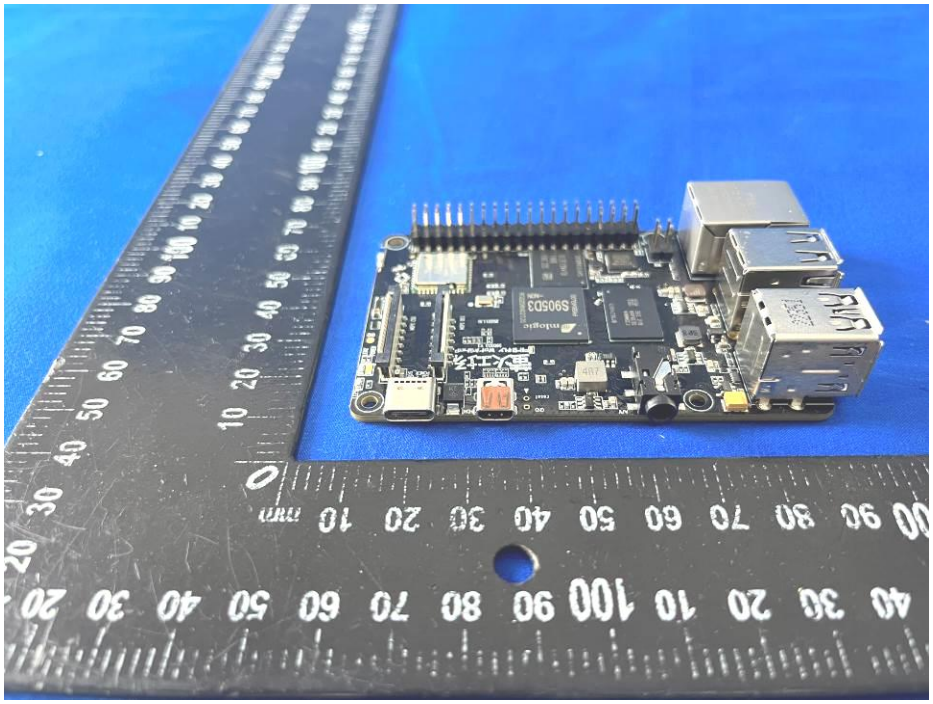


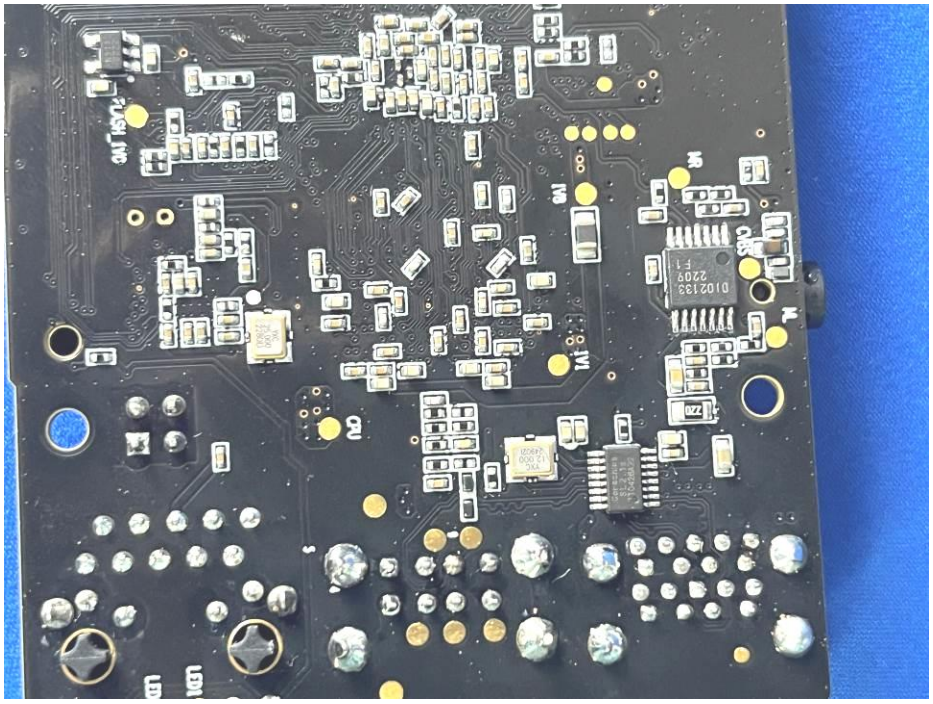


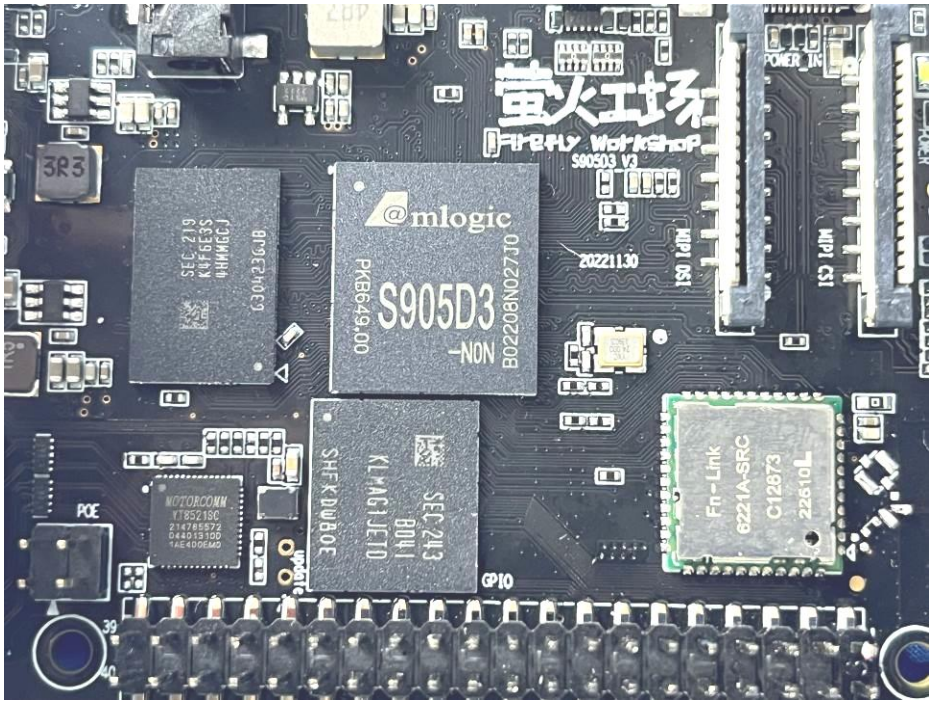



S905D3





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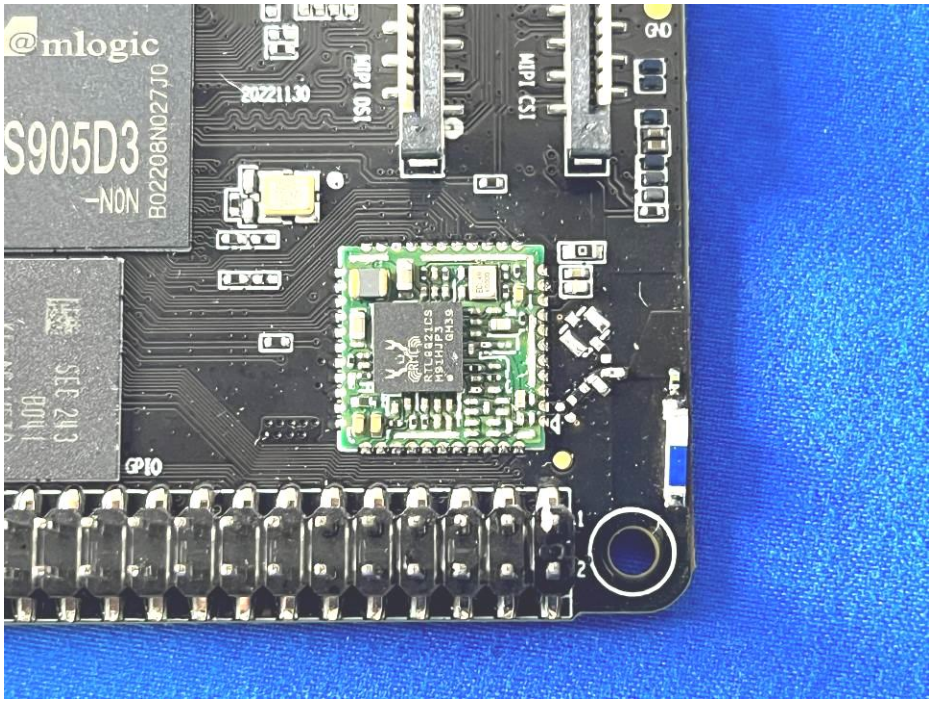
-NON
B02208N027J0
PKB649.00
SEC 243
B041
Fn-Link
6221A-SRC
C12873
22610
MOTORCOMM
MIPI CSI
MIPI DSI
POWER_IN
GPIO
POE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