

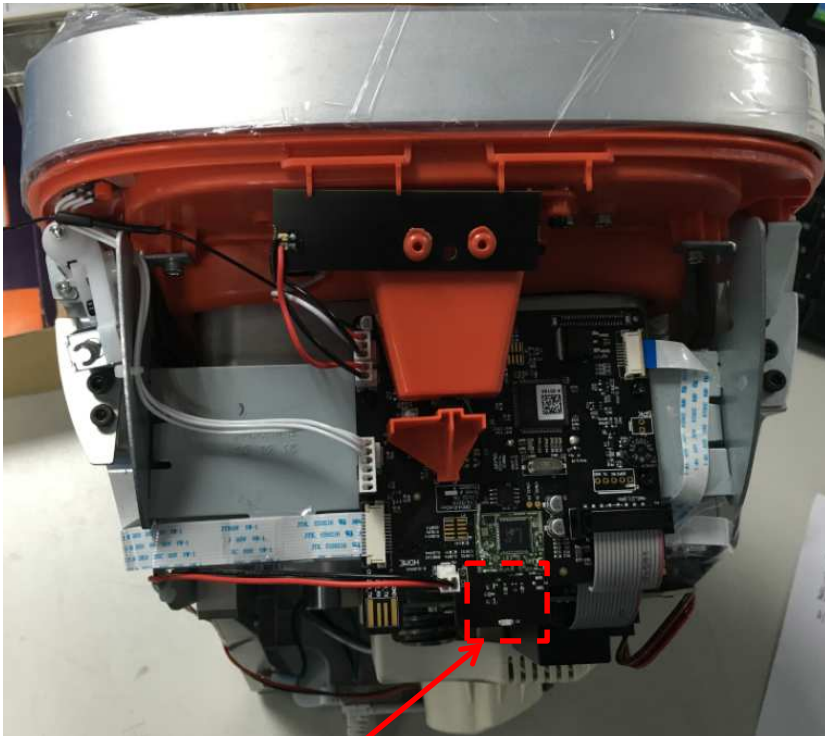


JUICERO WIFI antenna data report

SAA

2016-02-25

Antenna in the device



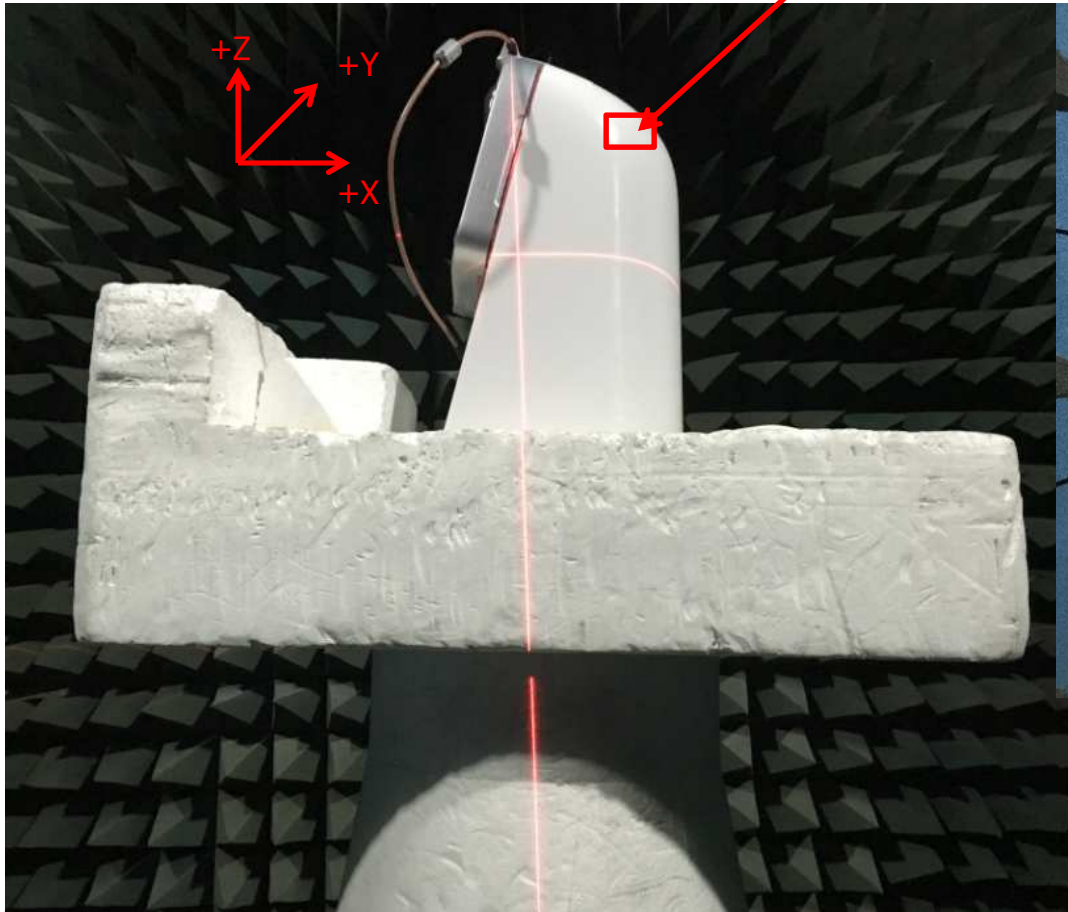
Original antenna in the device



SAA sample in the device

Test pictures

The antenna is facing +X direction.

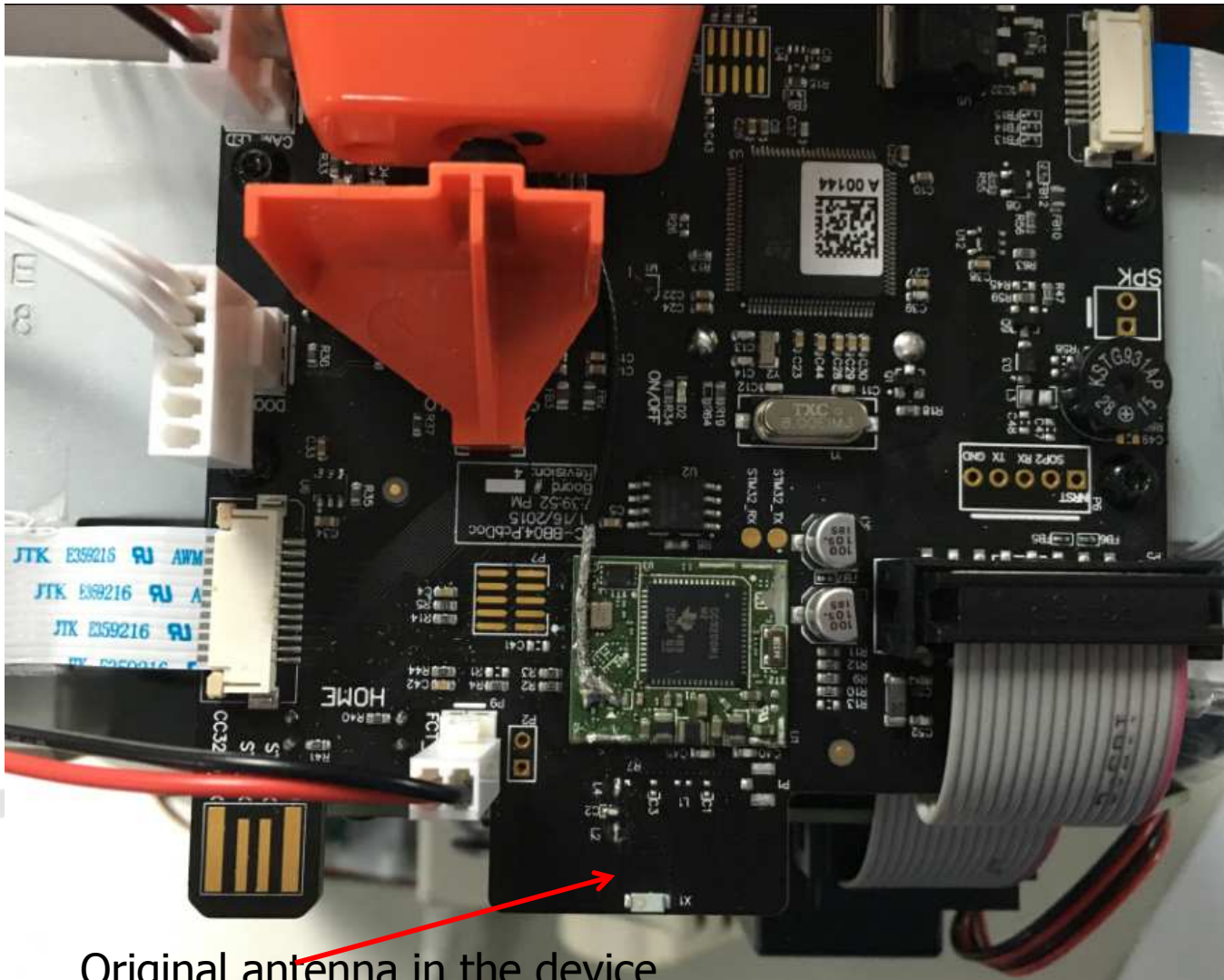




Performance of Original antenna

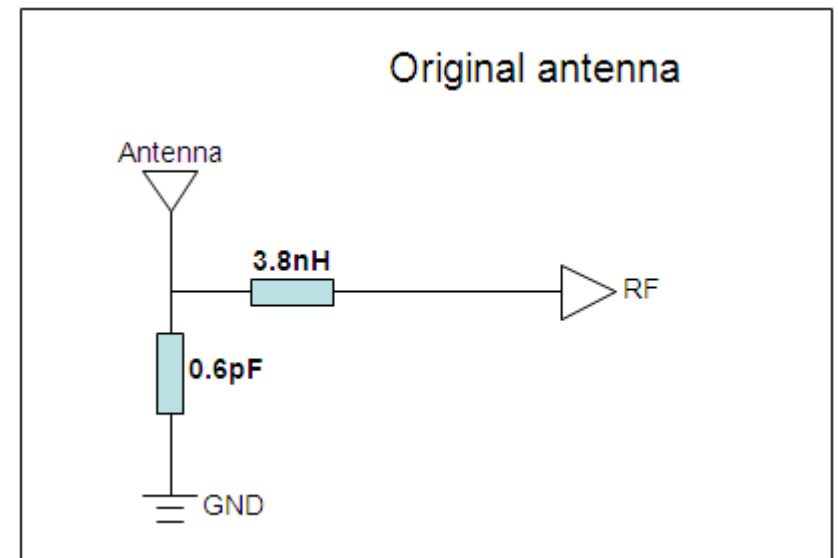
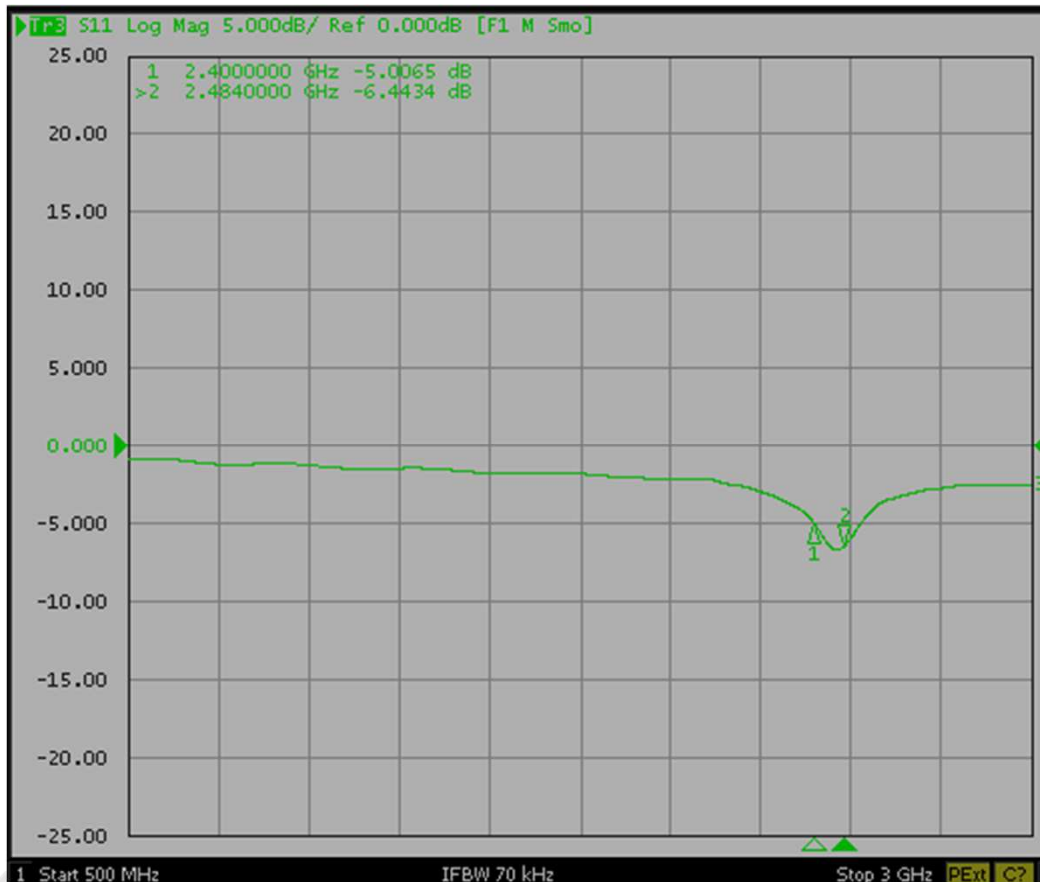


Original antenna



Original antenna in the device

Return loss and matching circuit - Original antenna



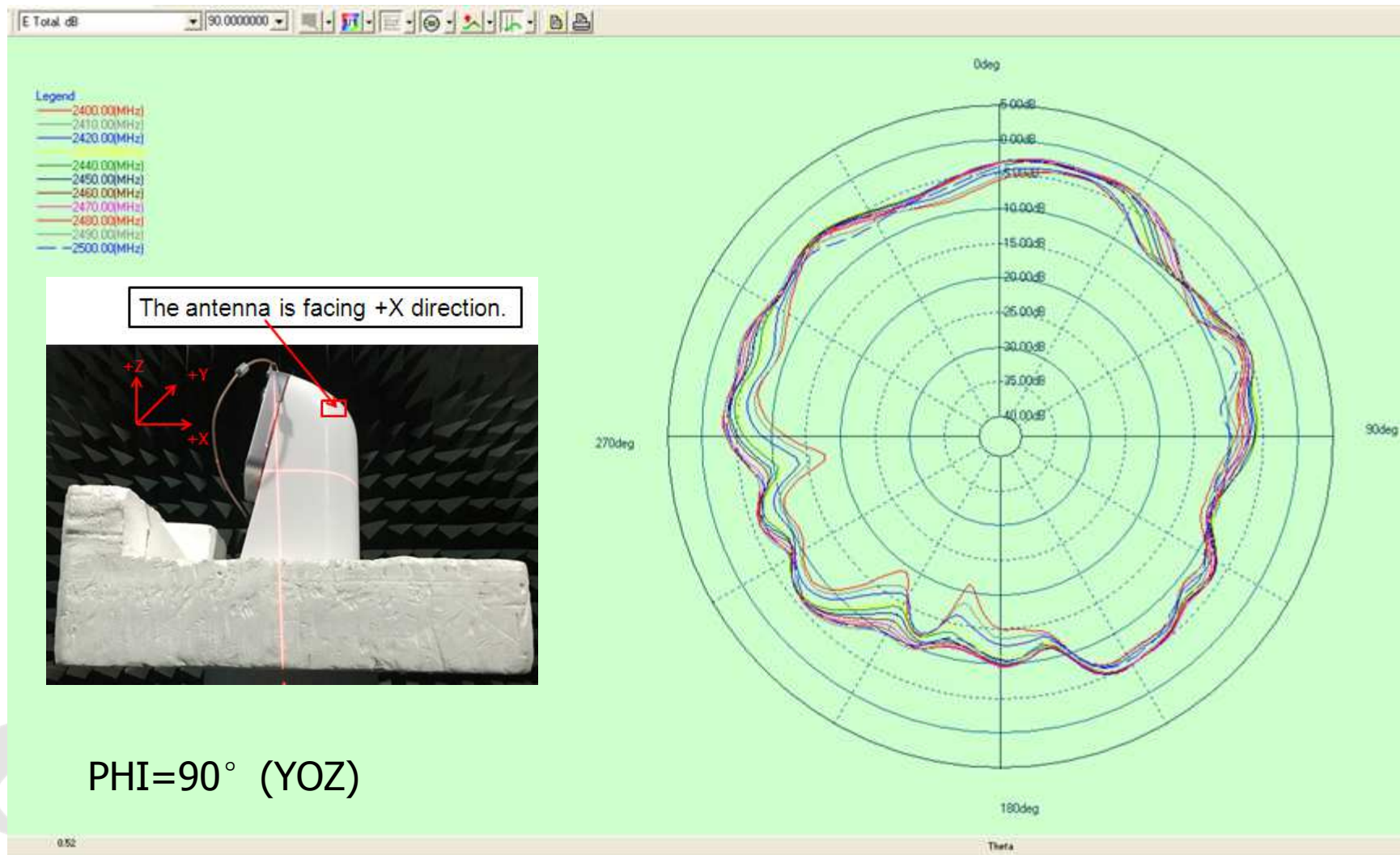
Efficiency and Peak gain

Frequency(MHz)	Effi(%)	Effi(dB)	Peak Gain(dB)
2400	19.4%	-7.1	-0.3
2410	20.4%	-6.9	-0.2
2420	22.4%	-6.5	0.3
2430	26.7%	-5.7	1.3
2440	26.3%	-5.8	1.1
2450	27.0%	-5.7	1.1
2460	25.9%	-5.9	1.1
2470	26.7%	-5.7	1.1
2480	26.6%	-5.8	1.0
2490	25.9%	-5.9	1.0
2500	22.7%	-6.4	0.3

Original antenna

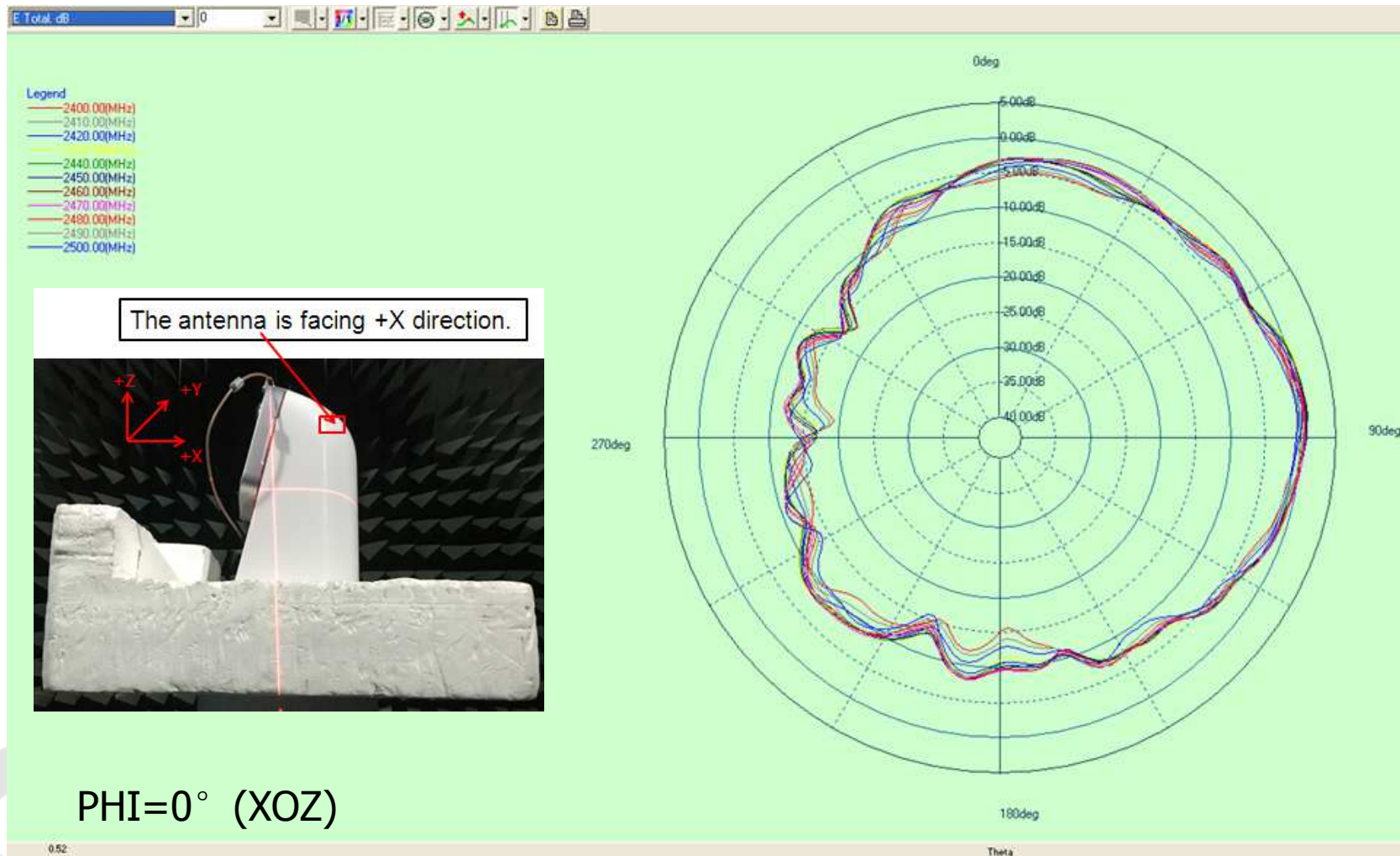
2D radiation pattern

Original antenna



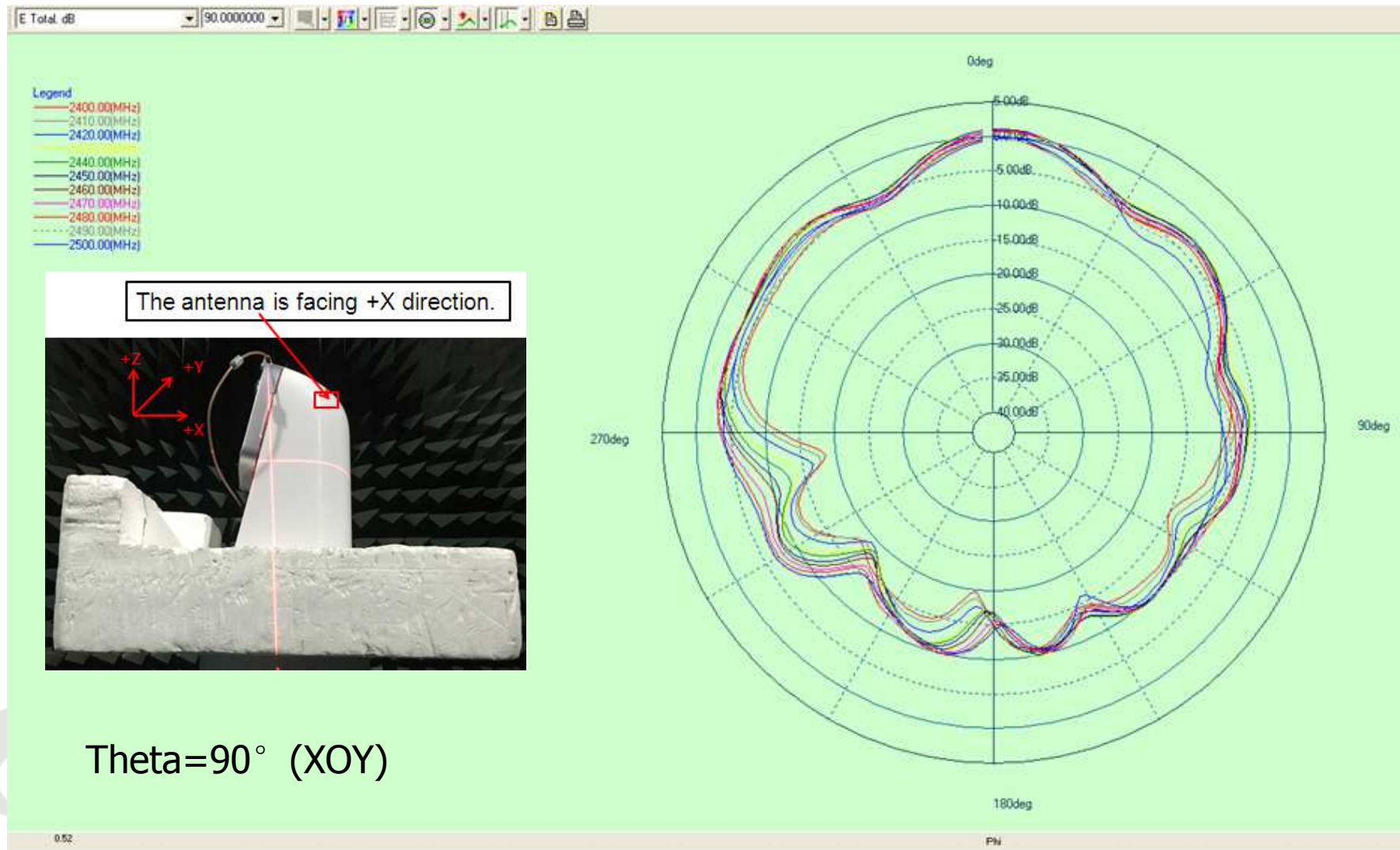
2D radiation pattern

Original antenna



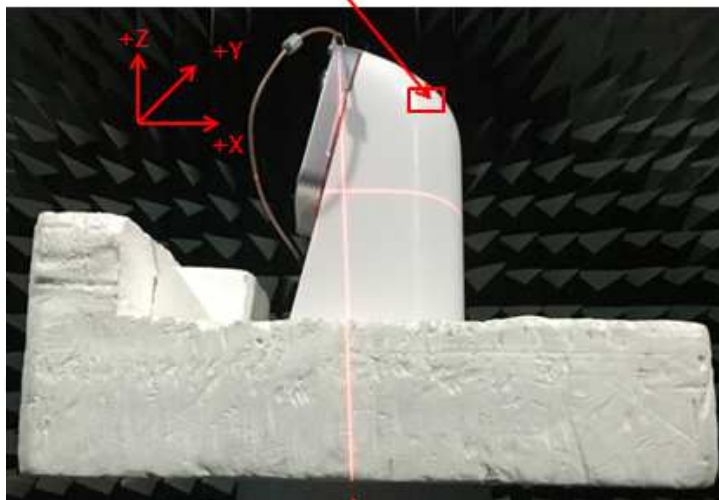
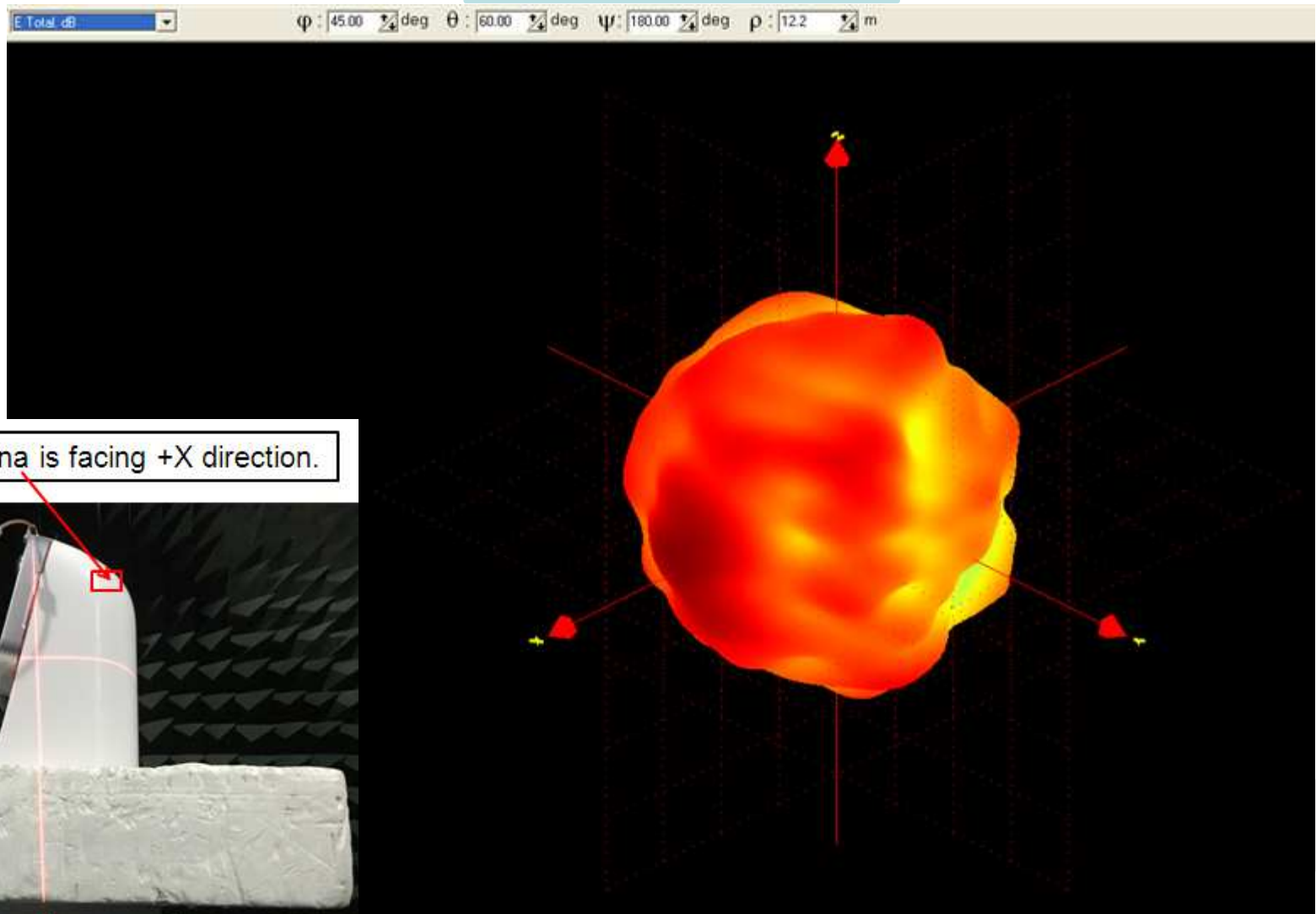
2D radiation pattern

Original antenna



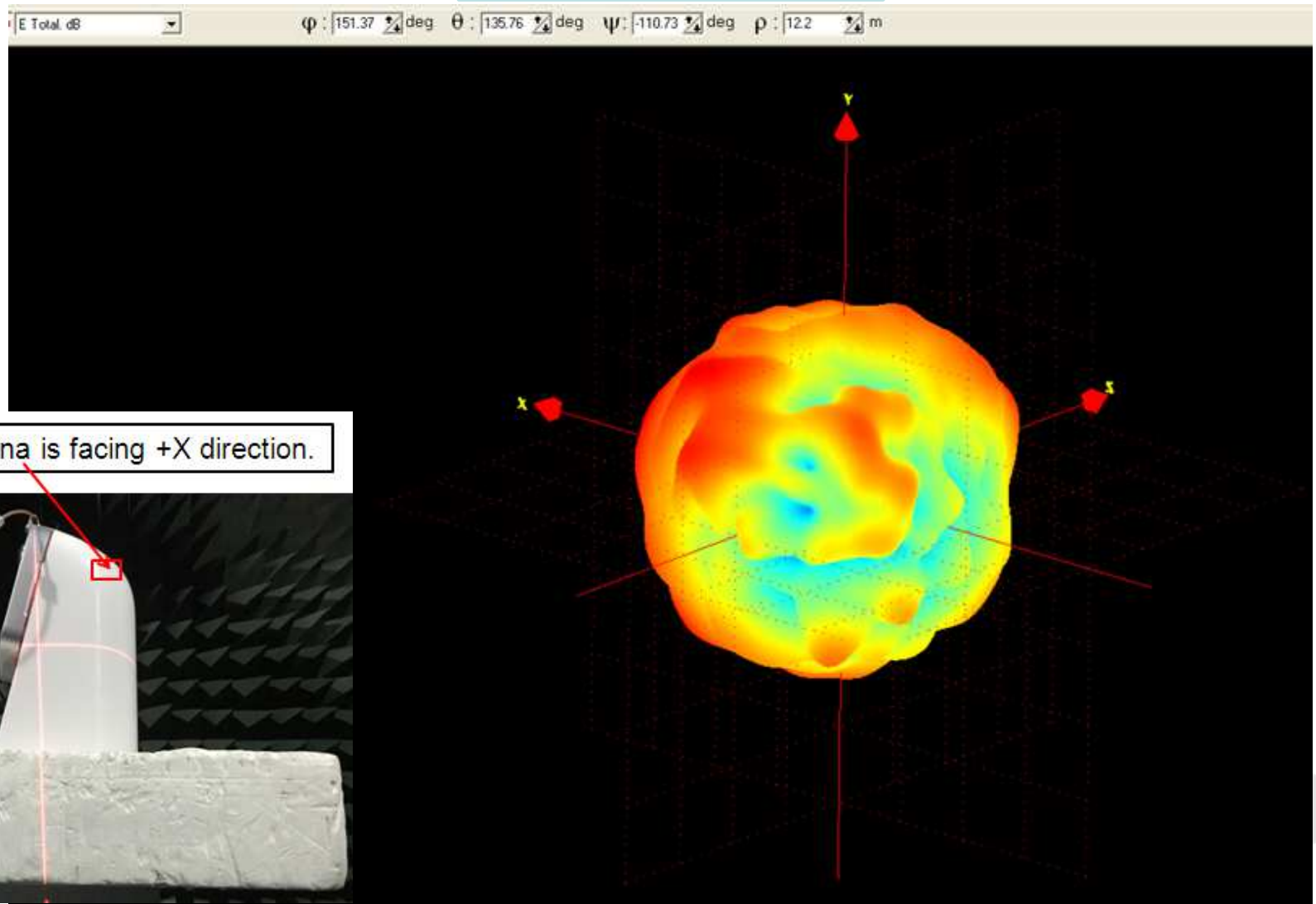
3D radiation pattern

Original antenna

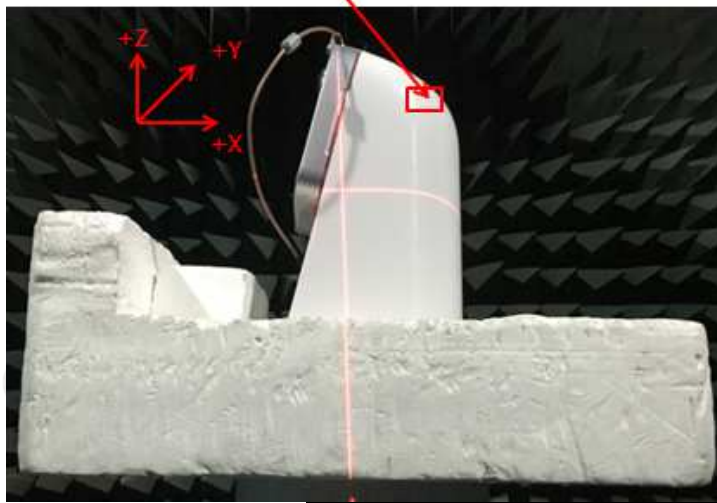


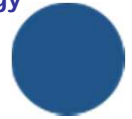
3D radiation pattern

Original antenna



The antenna is facing +X direction.





Performance of SAA antenna

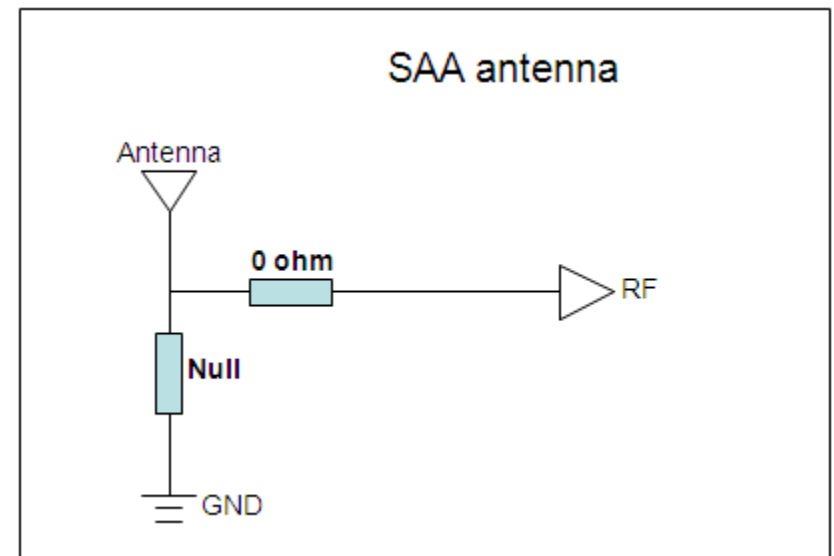
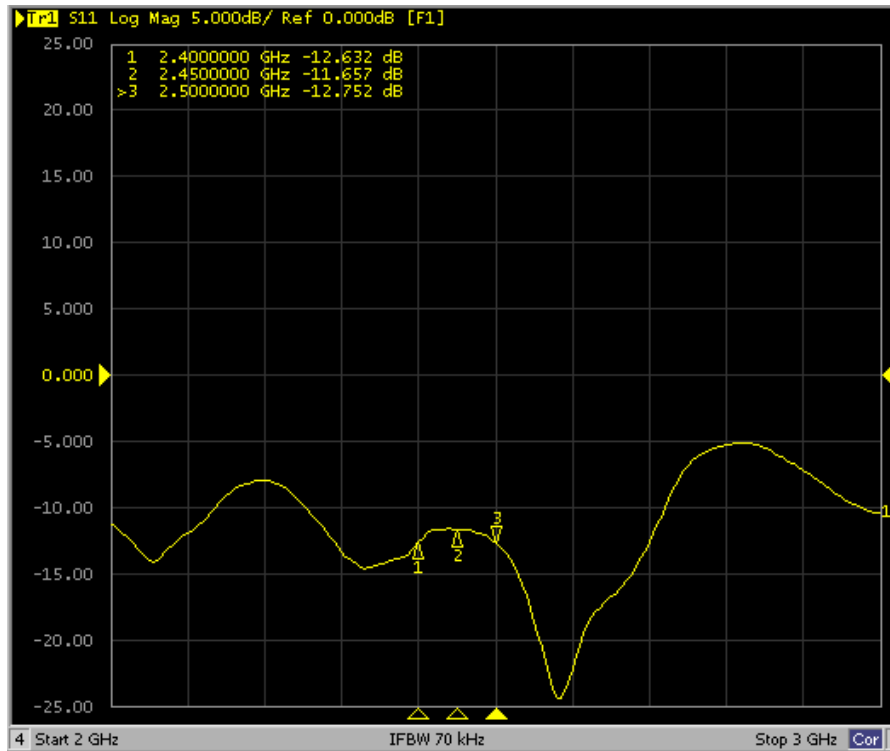


SAA antenna



SAA antenna in the device

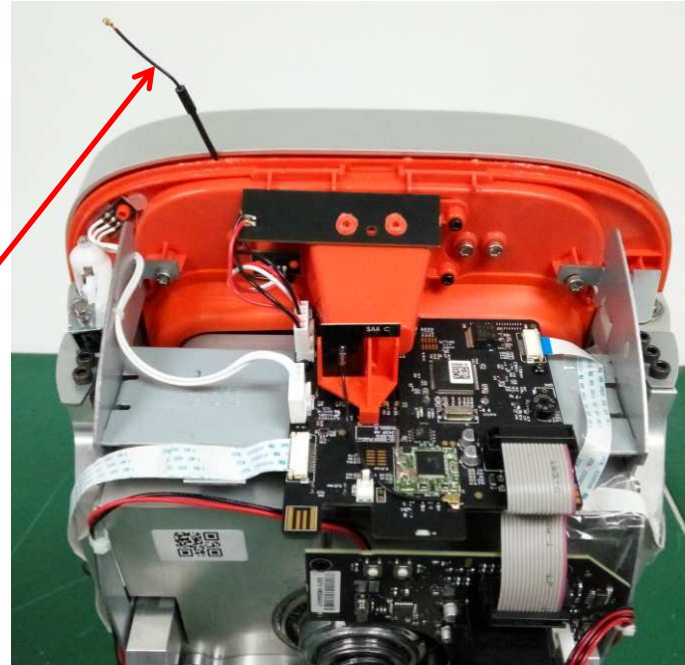
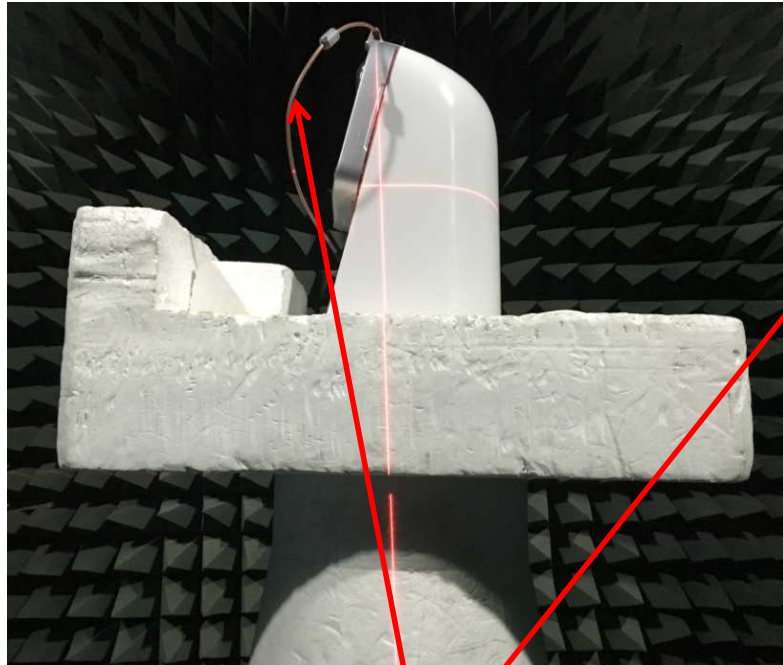
Return loss and matching circuit - SAA antenna



Efficiency and Peak gain

Frequency(MHz)	Effi(%)	Effi(dB)	Peak Gain(dB)
2400	41.6%	-3.81	2.79
2410	40.7%	-3.90	2.88
2420	41.0%	-3.87	3.29
2430	40.6%	-3.92	3.54
2440	40.5%	-3.93	3.60
2450	40.2%	-3.95	3.80
2460	40.4%	-3.93	3.95
2470	40.4%	-3.94	3.69
2480	40.2%	-3.96	3.49
2490	39.7%	-4.01	3.39
2500	39.5%	-4.03	3.08

SAA antenna real test data



We test the extra cable loss, the extra cable loss is about 1.3dB.

Efficiency and Peak gain

Frequency(MHz)	Effi(%)	Effi(dB)	Peak Gain(dB)
2400	56.1%	-2.51	4.09
2410	54.9%	-2.60	4.18
2420	55.4%	-2.57	4.59
2430	54.7%	-2.62	4.84
2440	54.6%	-2.63	4.90
2450	54.3%	-2.65	5.10
2460	54.6%	-2.63	5.25
2470	54.5%	-2.64	4.99
2480	54.2%	-2.66	4.79
2490	53.6%	-2.71	4.69
2500	53.3%	-2.73	4.38

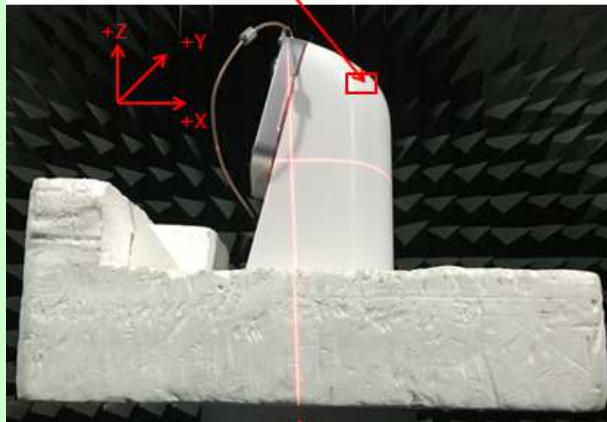
If we consider influence of the extra cable loss, the SAA antenna performance show as above.

2D radiation pattern

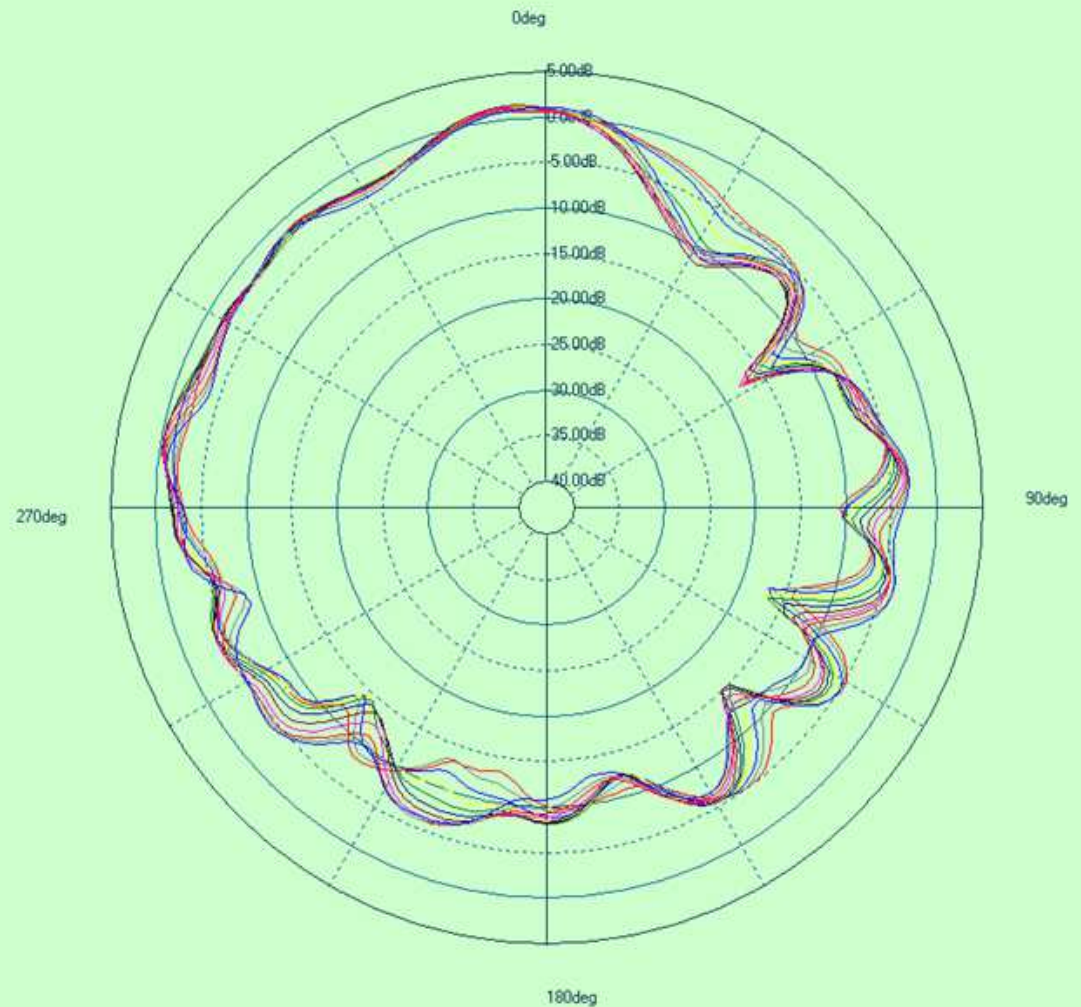
SAA antenna

Legend
 — 2400.00(MHz)
 — 2410.00(MHz)
 — 2420.00(MHz)
 — 2440.00(MHz)
 — 2450.00(MHz)
 — 2460.00(MHz)
 — 2470.00(MHz)
 — 2480.00(MHz)
 — 2490.00(MHz)
 — 2500.00(MHz)

The antenna is facing +X direction.



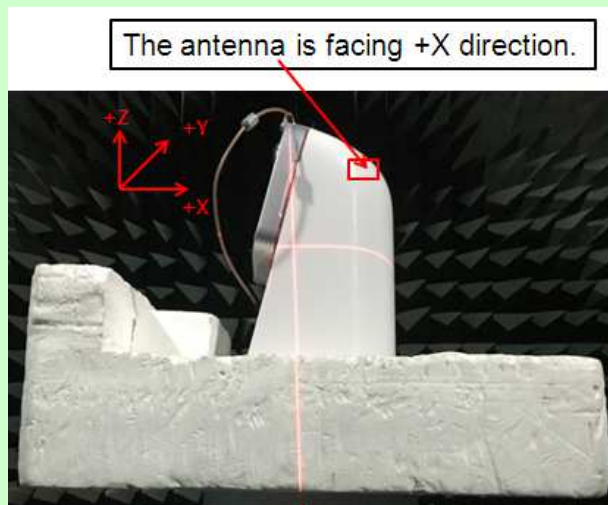
$\text{PHI}=90^\circ$ (YOZ)



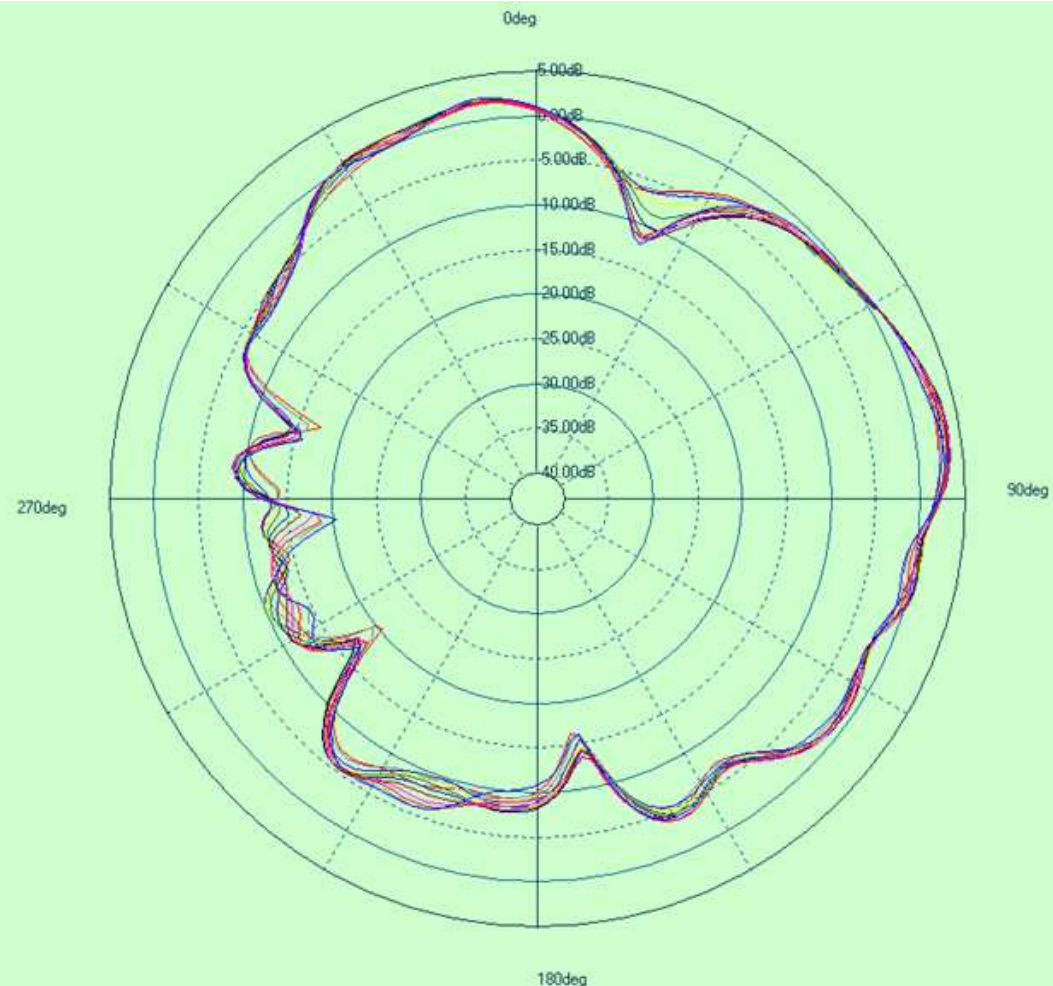
2D radiation pattern

SAA antenna

Legend
 — 2400.00(MHz)
 — 2410.00(MHz)
 — 2420.00(MHz)
 — 2440.00(MHz)
 — 2450.00(MHz)
 — 2460.00(MHz)
 — 2470.00(MHz)
 — 2480.00(MHz)
 — 2490.00(MHz)
 — 2500.00(MHz)



$\text{PHI}=0^\circ$ (XOZ)



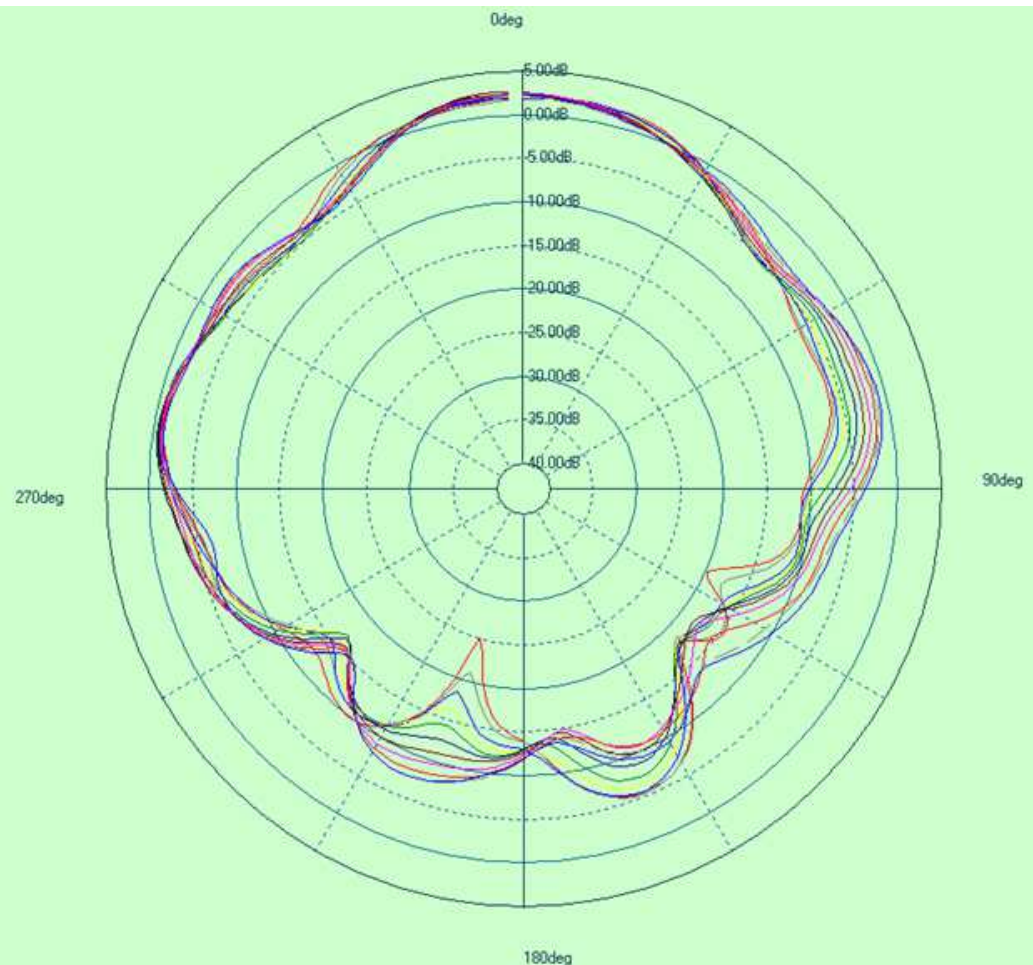
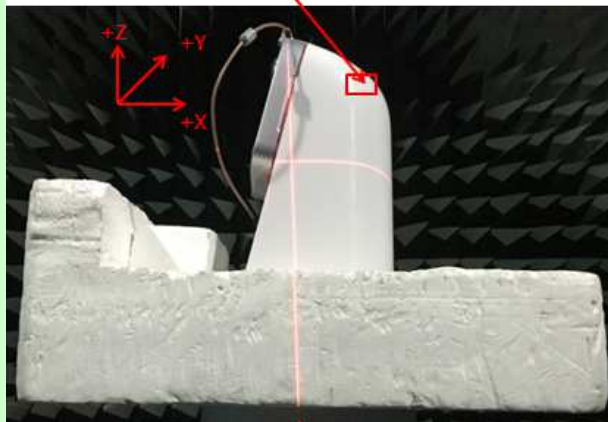
2D radiation pattern

SAA antenna

Legend

- 2400.00(MHz)
- 2410.00(MHz)
- 2420.00(MHz)
- 2440.00(MHz)
- 2450.00(MHz)
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- 2470.00(MHz)
- 2480.00(MHz)
- 2490.00(MHz)
- 2500.00(MHz)

The antenna is facing +X direction.

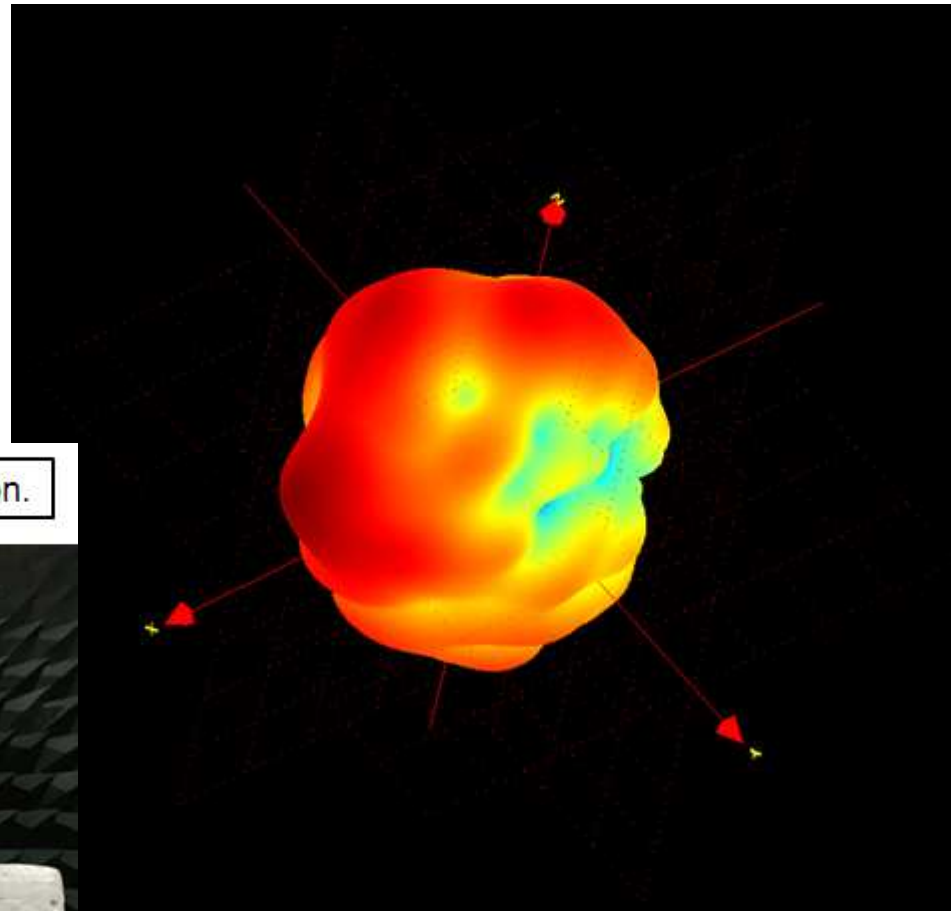
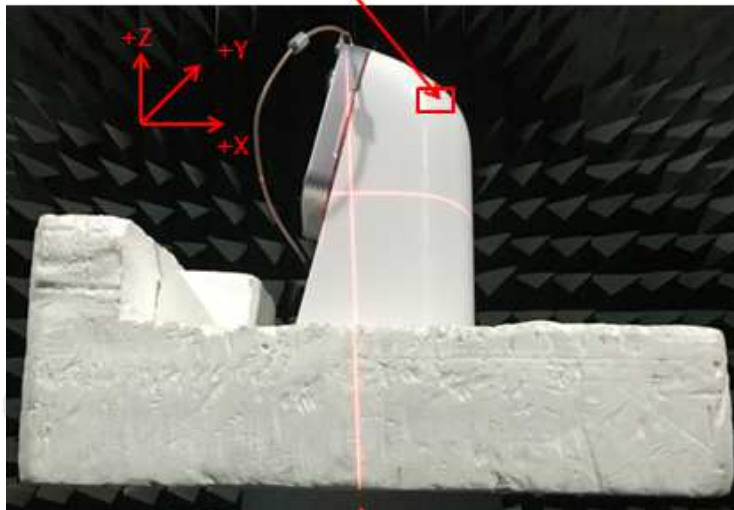


Theta=90° (XOY)

3D radiation pattern

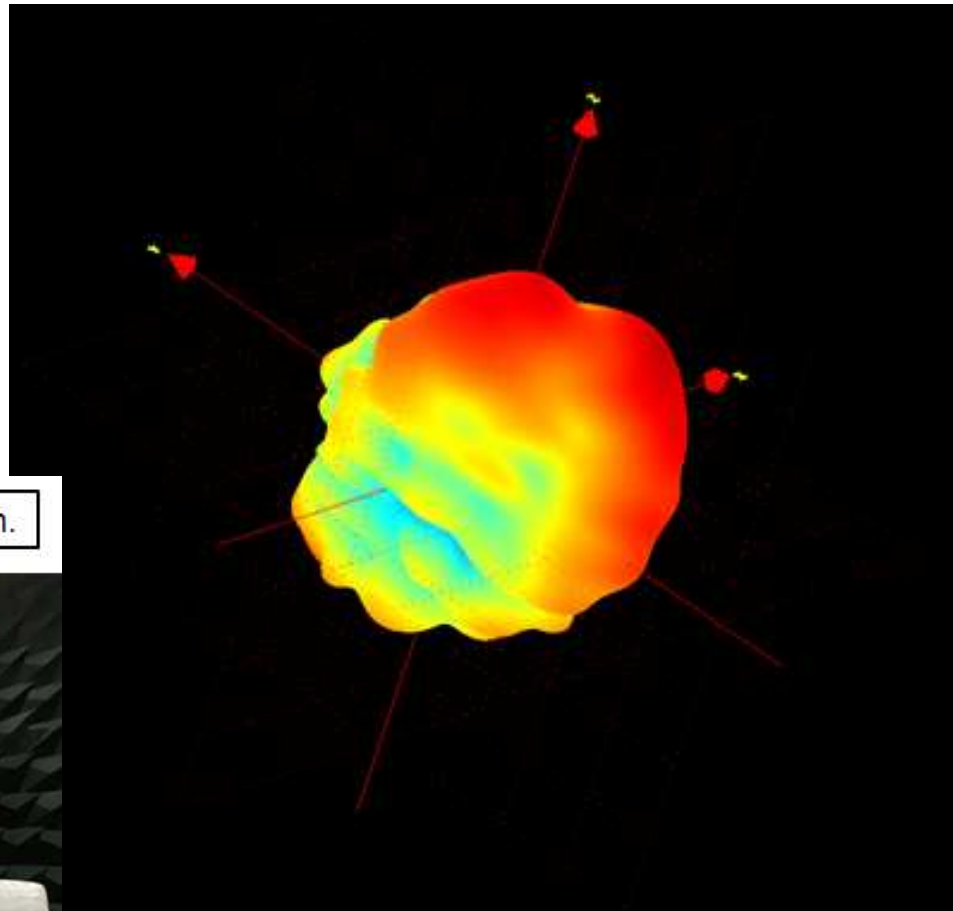
SAA antenna

The antenna is facing +X direction.

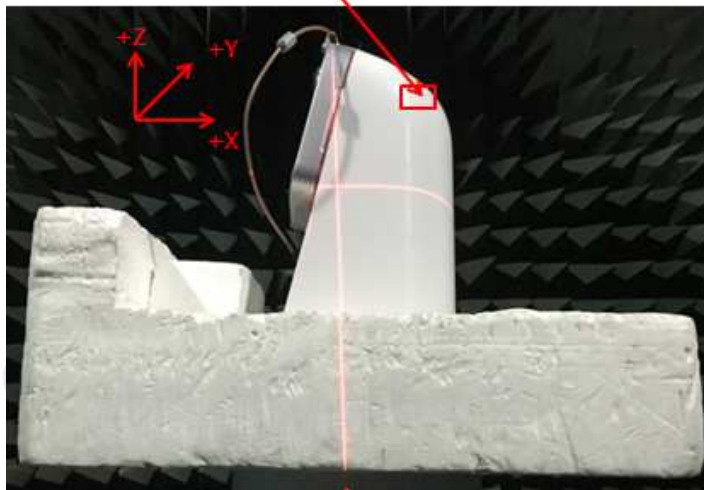


3D radiation pattern

SAA antenna



The antenna is facing +X direction.



Comparison

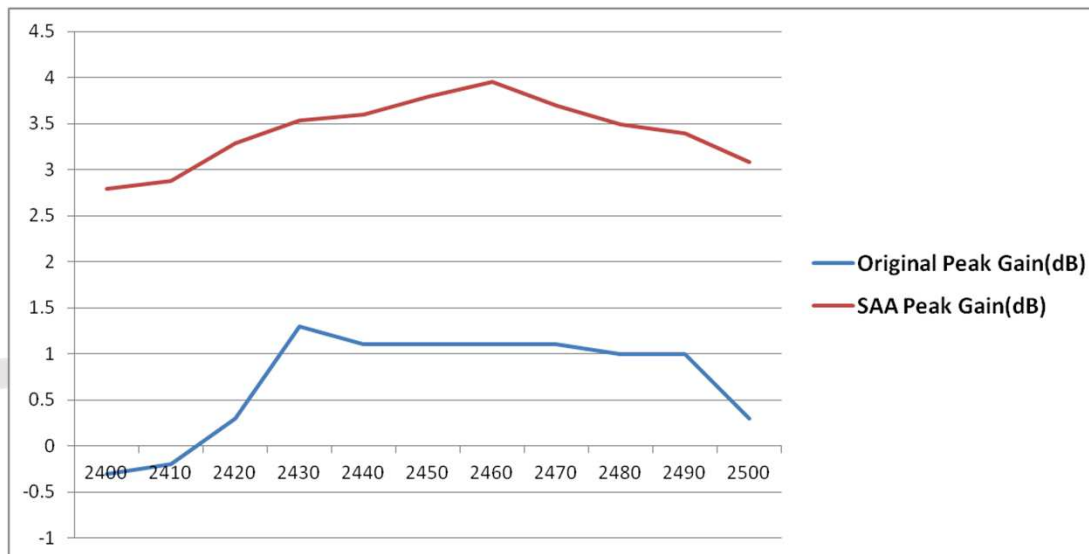
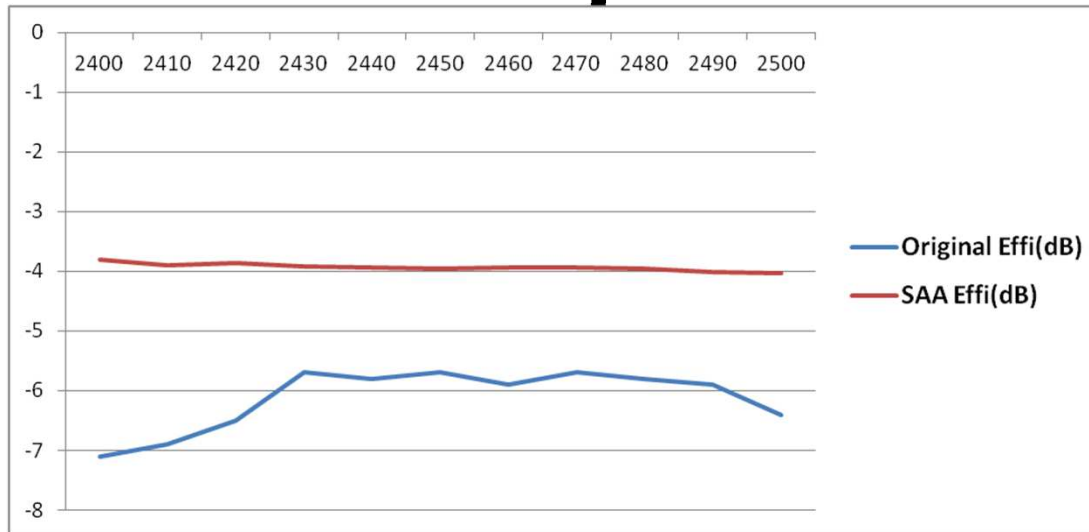
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Original antenna

SAA antenna real test data

Comparison





Thanks!

