

A red-tinted background image showing a close-up of a microchip with a grid of circuitry. The word 'fotografos' is visible in several places on the chip. The text '20221 R2 Simulation Result' is overlaid in white.

20221 R2 Simulation Result

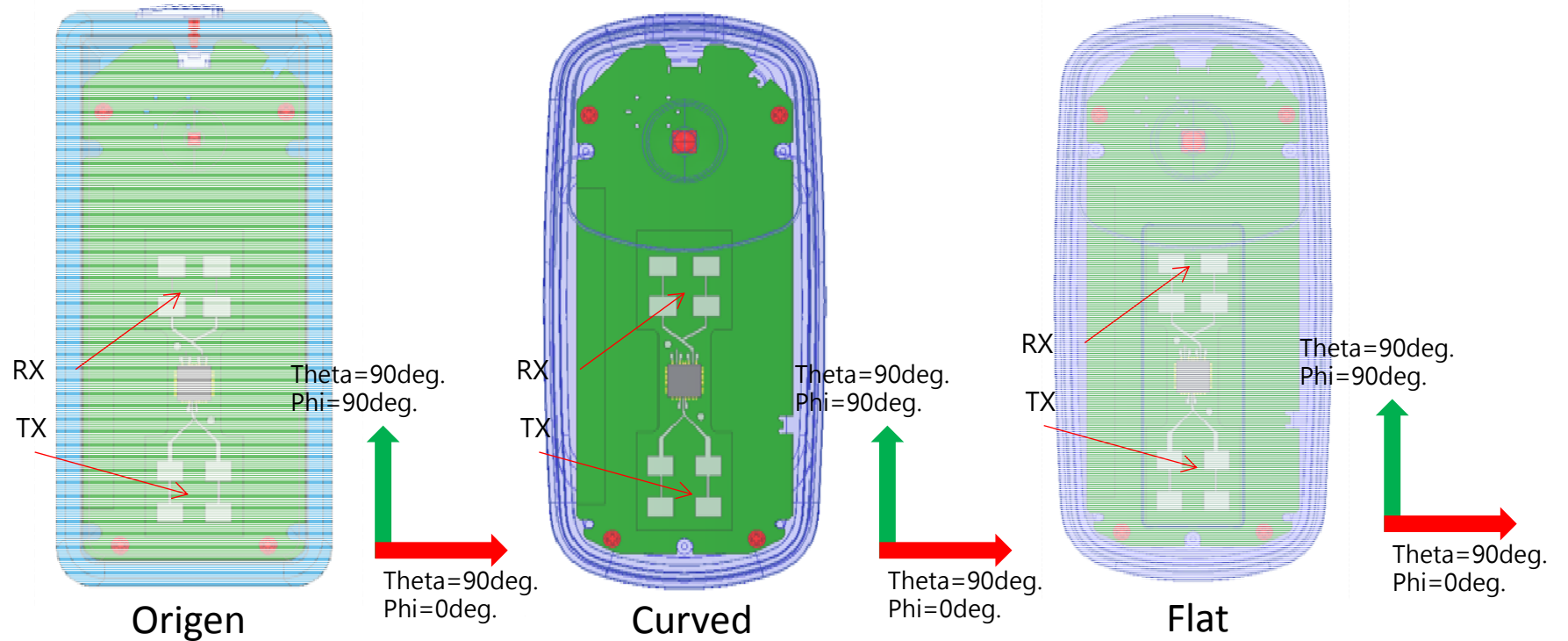


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3D Model

- 模擬檔案R2_20220218.aedt(radar_asm_20220217.step)



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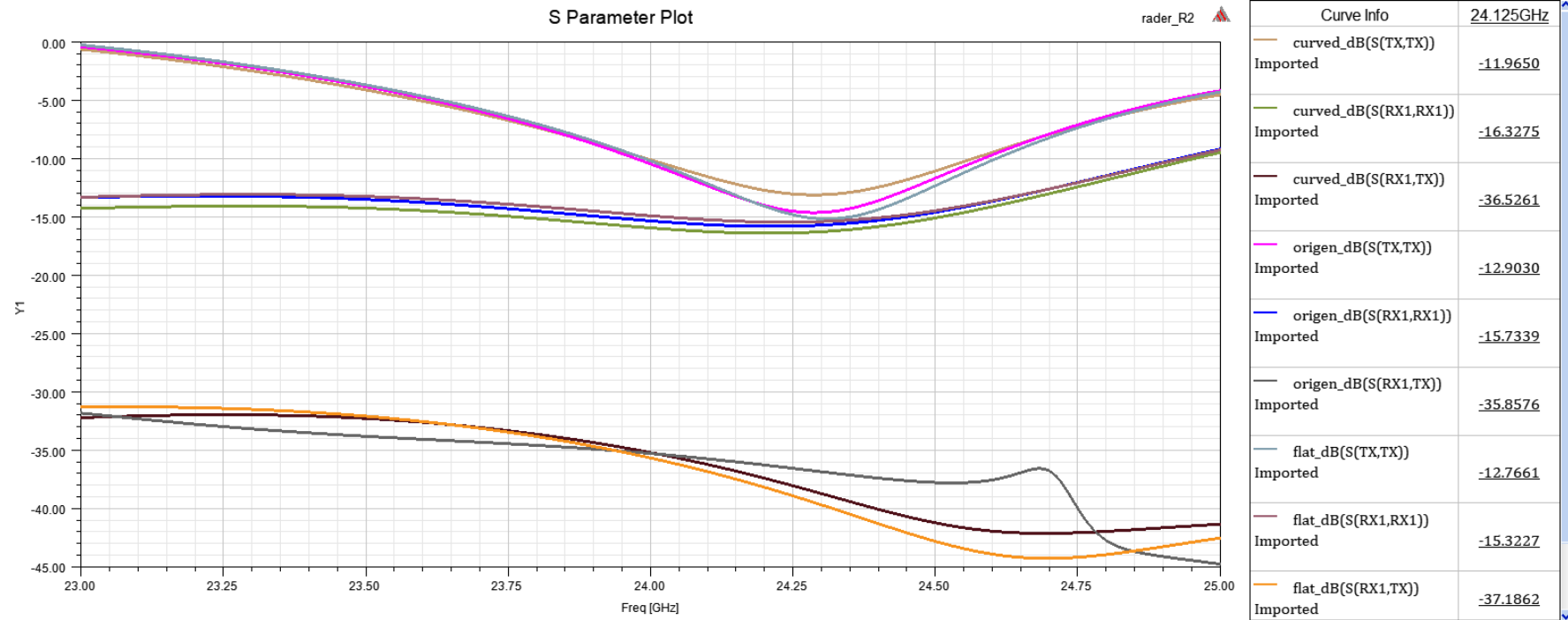
Conclusion

Item		TX(Gain/ beamwidth)	RX(Gain/ beamwidth)
Radiation pattern	Gain / 3dB beamwidth (Phi=0 deg., Horizontal)	Origen : 10.7 dB / 53.3 deg Curved : 10.7 dB / 50.3 deg Flat : 10.6 dB / 50.3 deg	Origen : 10.7 dB / 57.6 deg Curved : 11.4 dB / 49.4 deg Flat : 11.4 dB / 48.9 deg
	Gain / 3dB beamwidth (Phi=90 deg., Vertical)	Origen : 11.1 dB / 60.1 deg Curved : 11.2 dB / 56.6 deg Flat : 11.2 dB / 58.0 deg	Origen : 10.9 dB / 58.3 deg Curved : 11.5 dB / 49.2 deg Flat : 11.5 dB / 49.8 deg
S Parameter	Return Loss	Origen : 12.0 dB Curved : 12.9 dB Flat : 12.8 dB	Origen : 16.3 dB Curved : 15.7 dB Flat : 15.3 dB
	Isolation(TX-RX)	Origen : -36.5 dB Curved : -35.9 dB Flat : -37.2 dB	

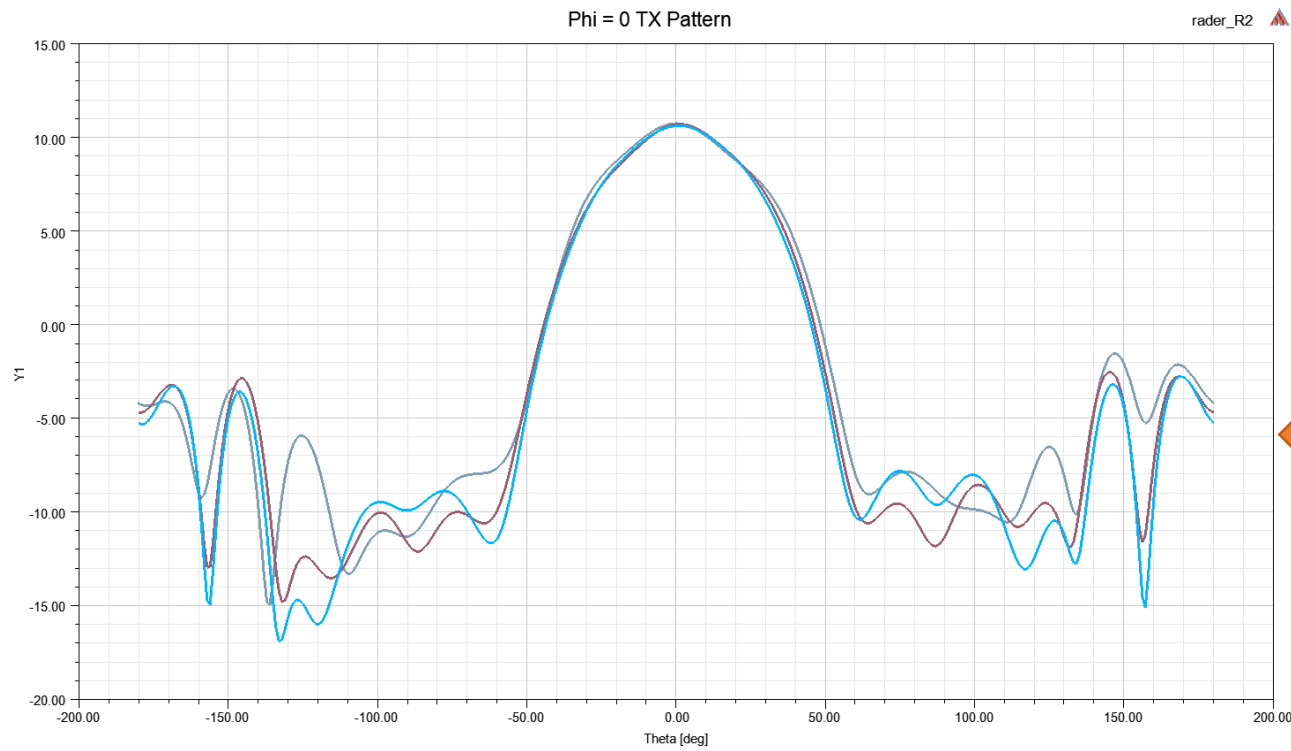
- 天線增益部分皆有超過10 dB。
- 含3D 模型的半功率波束寬約為50度，大於spec.的30度，但實際量測天線角度通常會相較模擬的角度小。
- 3D模型造成天線反射損失稍微偏移，約為0.14 GHz。可以調整天線使其最低點回歸24.125 GHz。
- 詳細模擬結果於後面頁面。



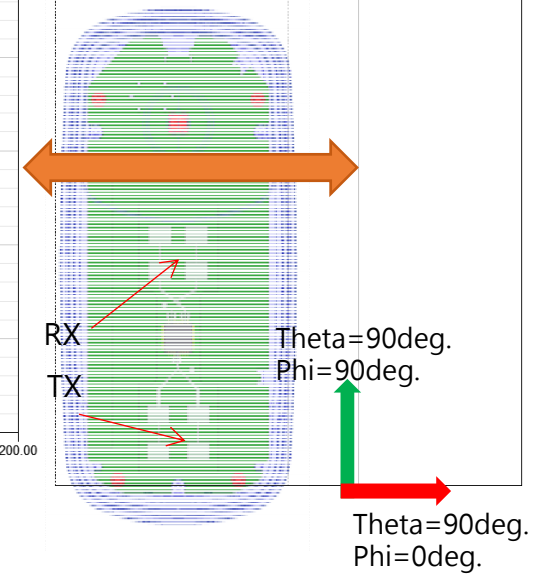
S Parameter



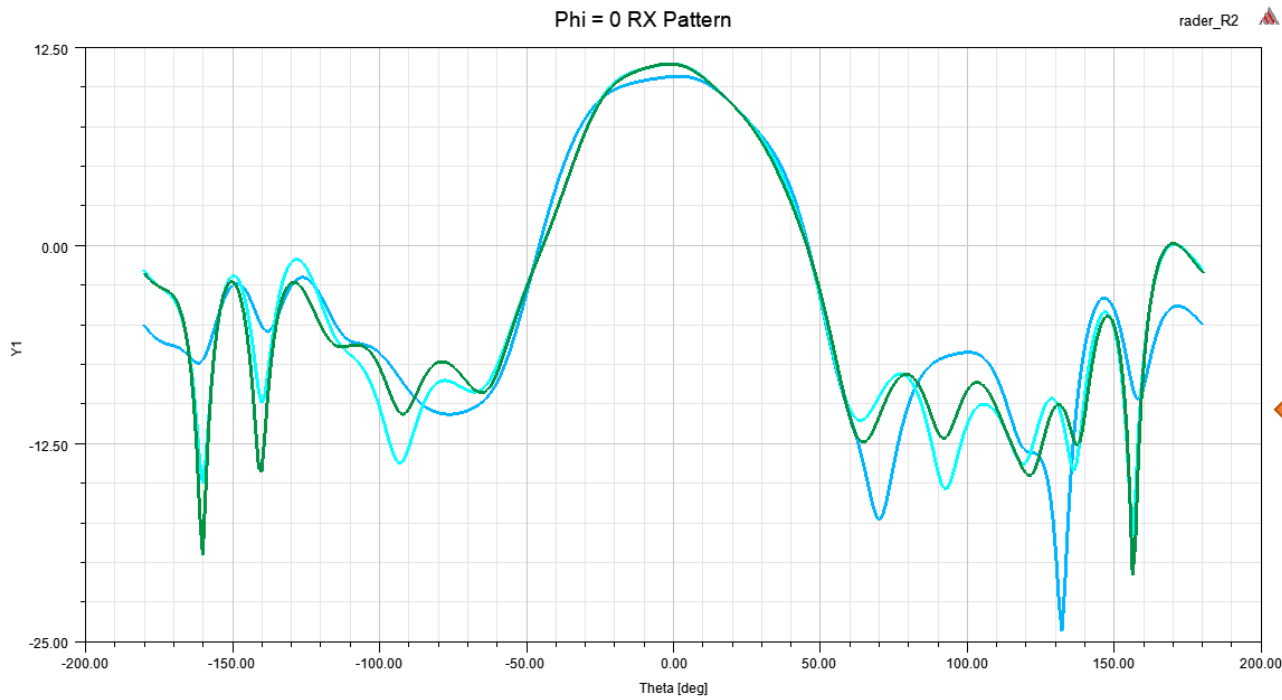
Phi=0deg Pattern(TX)



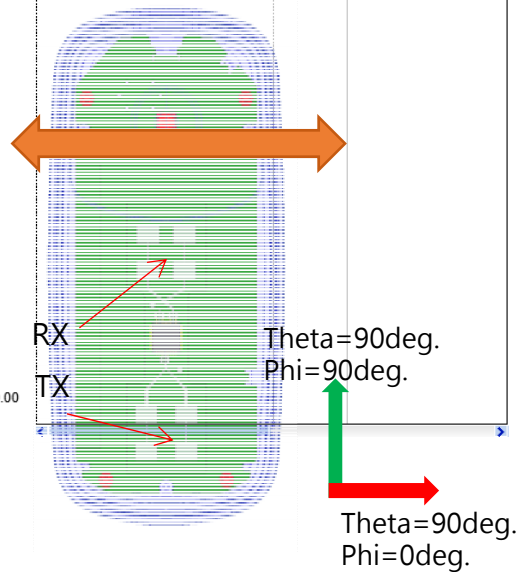
Curve Info	max	3db Beamwidth(3)
origen_TX_phi=0 Imported Freq='24.125GHz' Phi='0deg'	10.7214	<u>53.2701</u>
curved_TX_phi=0 Imported Freq='24.125GHz' Phi='0deg'	10.6891	<u>50.3426</u>
flat_TX_phi=0 Imported Freq='24.125GHz' Phi='0deg'	10.6132	<u>50.3444</u>



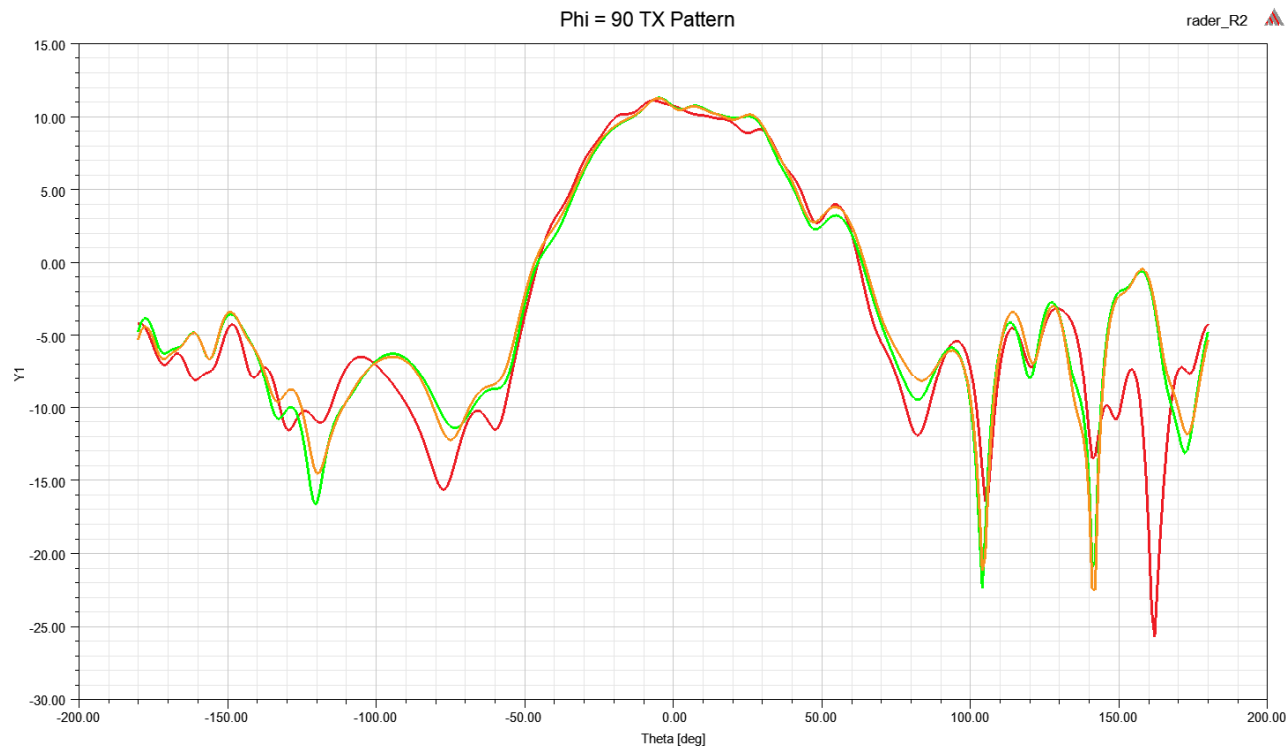
Phi=0deg Pattern(RX1)



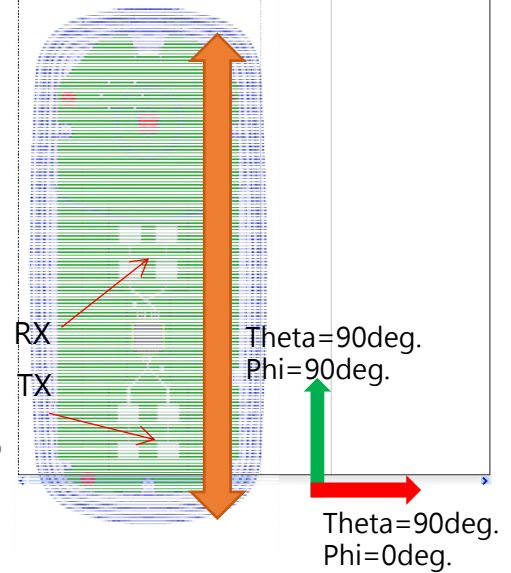
Curve Info	max	3db Beamwidth(3)
origen_RX_phi=0 Imported Freq='24.125GHz' Phi='0deg'	10.6514	57.5811
curved_RX_phi=0 Imported Freq='24.125GHz' Phi='0deg'	11.4346	49.3641
flat_RX_phi=0 Imported Freq='24.125GHz' Phi='0deg'	11.4400	48.9353



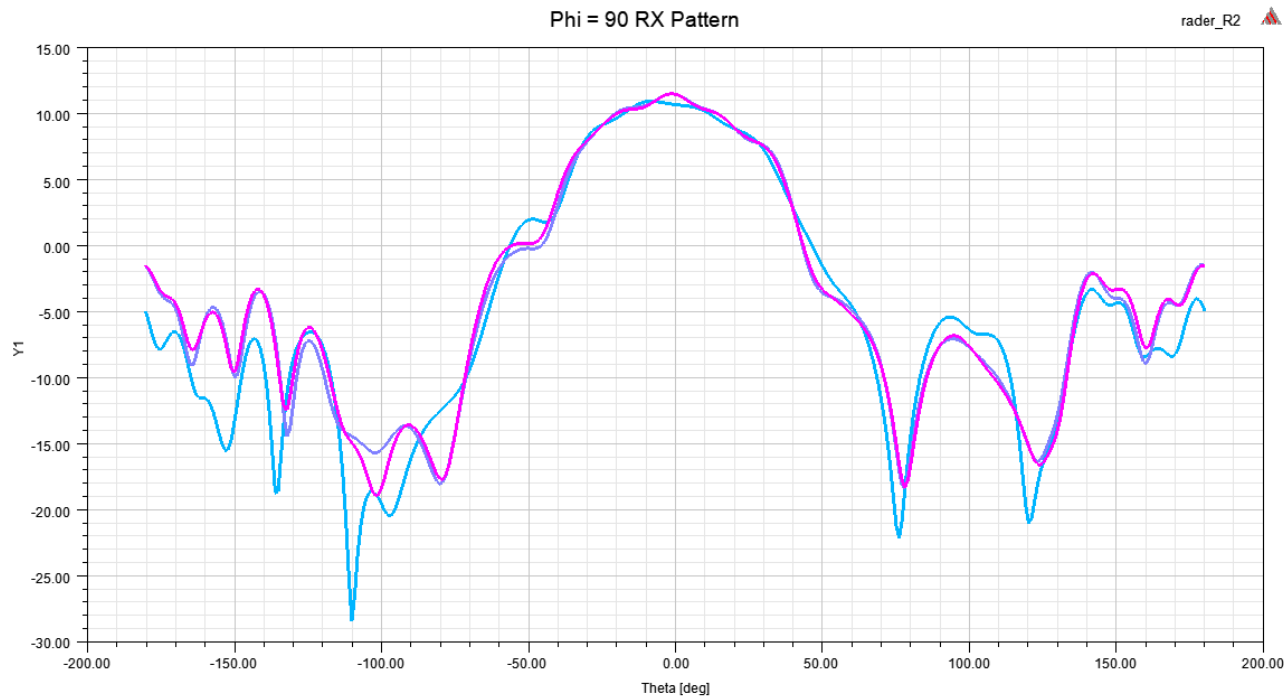
Phi=90deg Pattern(TX)



Curve Info	max	3db Beamwidth(3)
— origen_TX_phi=90 Imported Freq='24.125GHz' Phi='90deg'	11.0752	60.1095
— curved_TX_phi=90 Imported Freq='24.125GHz' Phi='90deg'	11.2597	56.5852
— flat_TX_phi=90 Imported Freq='24.125GHz' Phi='90deg'	11.2439	57.9685

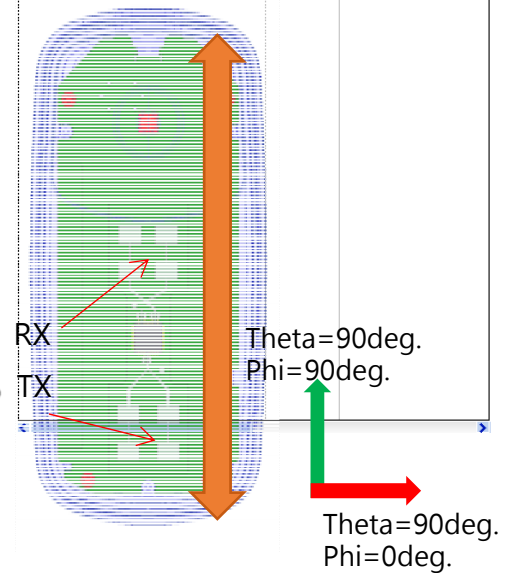


Phi=90deg Pattern(RX1)



rader_R2

Curve Info	max	3db Beamwidth(3)
— origen_RX_phi=90 Imported Freq='24.125GHz' Phi='90deg'	10.8975	58.3342
— curved_RX_phi=90 Imported Freq='24.125GHz' Phi='90deg'	11.4603	49.2859
— flat_RX_phi=90 Imported Freq='24.125GHz' Phi='90deg'	11.4631	49.8227



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