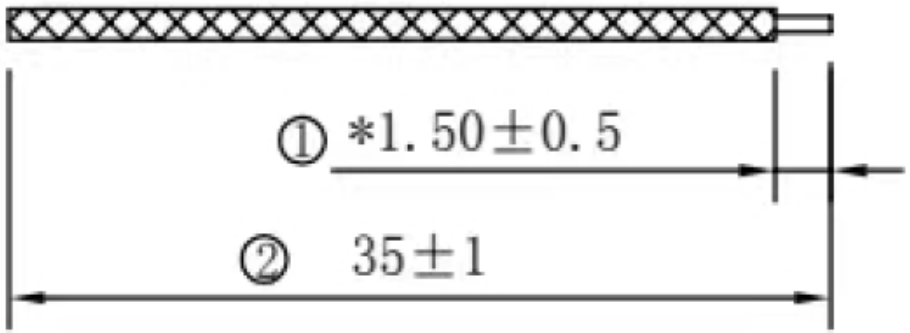
[RTL8821CS] module antenna test report

Jeany Ling

Nov. 23, 2022

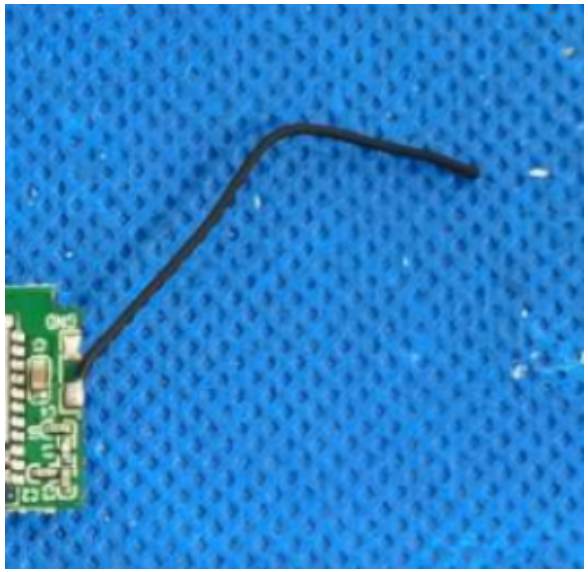
[RTL8821CS] module antenna test report

- **Antenna structure**



mm

- **Photo**



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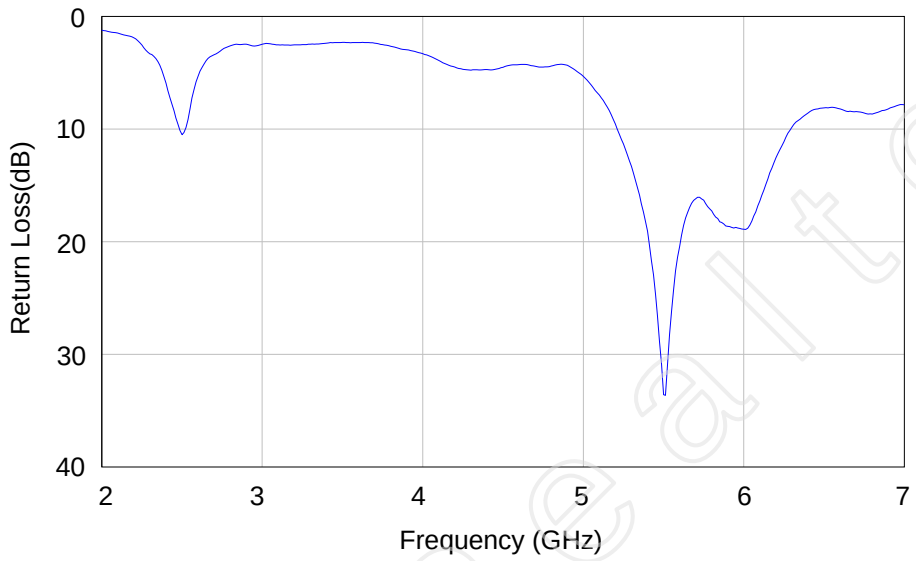
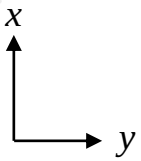
- **Return Loss**

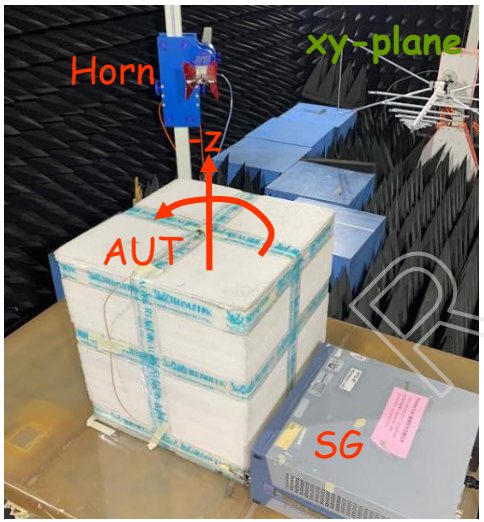


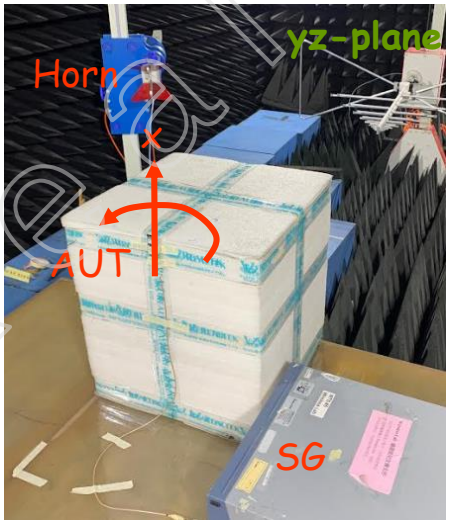
* C4=C5=NC, L1=0ohm

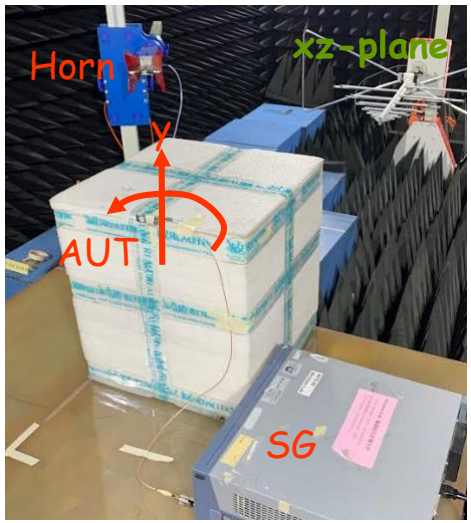
[RTL8821CS] module antenna test report

- **Radiation Patterns**
  - Frequency : 2400MHz, 2450MHz, 2480MHz,
    5150MHz, 5500MHz, 5850MHz and 5925MHz
  - Test plane : xy-plane, xz-plane and yz-plane
  - Input power : SG 0dBm
  - Place: RTK 4F chamber
  - Horn h: horizontal polarization
  - Horn v: vertical polarization









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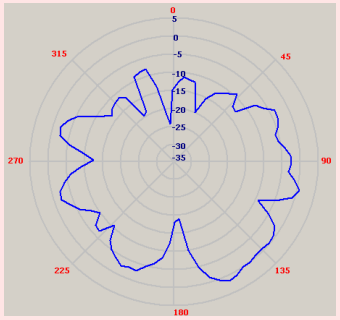
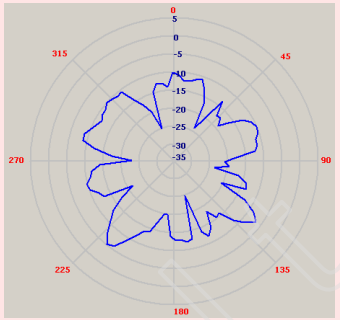
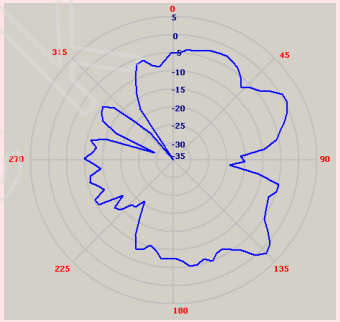
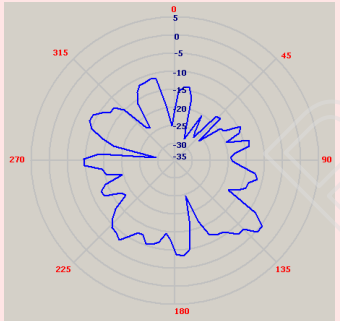
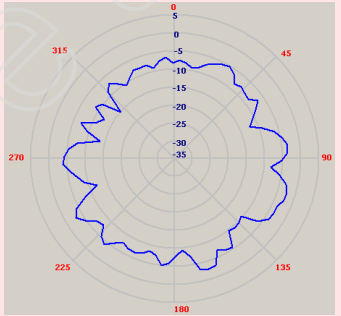
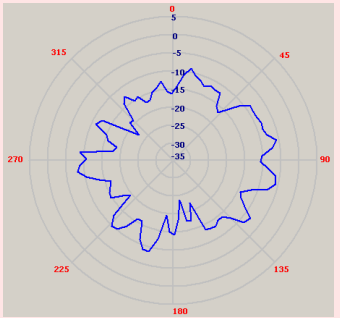
- **Radiation Patterns – 2400 MHz**

	xy-plane	yz-plane	xz-plane
horizontal			
vertical			

Pol.	Peak	avg.
h	+1.8	-4.8

Pol.	peak	avg.
h	-5.5	-12.4

Pol.	peak	avg.
h	+1.4	-6.1

Pol.	peak	avg.
v	-4.8	-12.6

Pol.	peak	avg.
v	-2.5	-6.7

Pol.	peak	avg.
v	-5.8	-11.8

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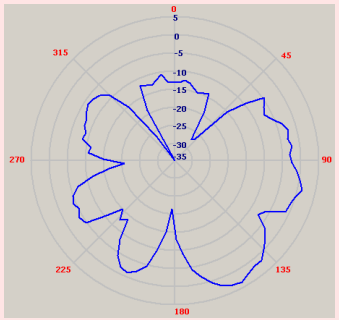
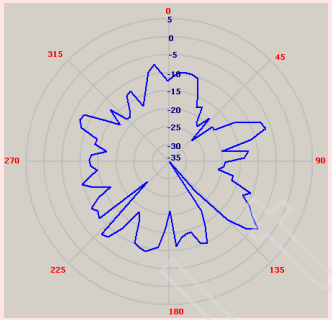
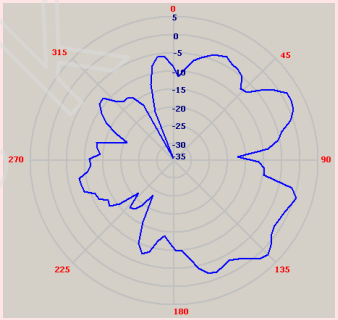
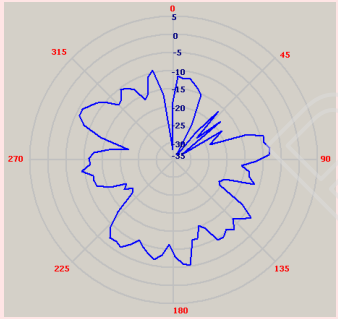
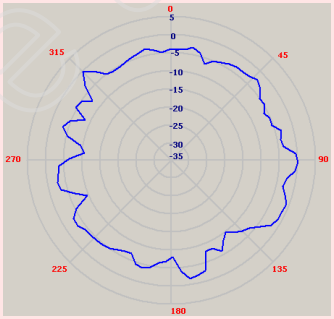
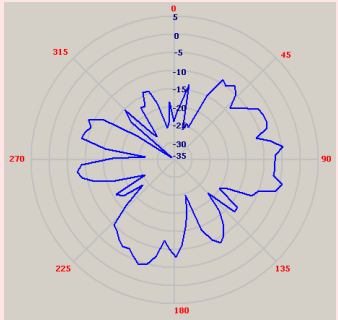
- **Radiation Patterns – 2450 MHz**

	xy-plane	yz-plane	xz-plane
horizontal			
vertical			

Pol.	Peak	avg.
h	+3.5	-4.4

Pol.	peak	avg.
h	-4.2	-11.8

Pol.	peak	avg.
h	+1.7	-5.2

Pol.	peak	avg.
v	-5.4	-11.3

Pol.	peak	avg.
v	+0.1	-4.2

Pol.	peak	avg.
v	-4.4	-10.6

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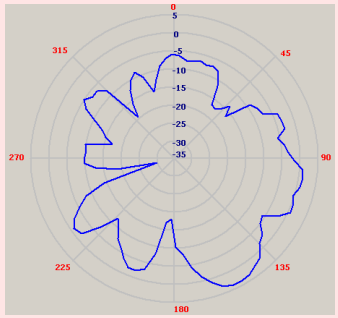
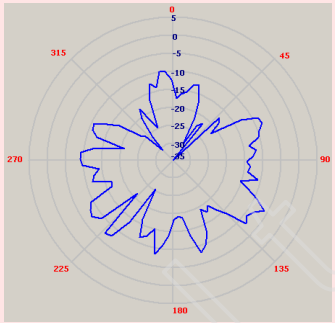
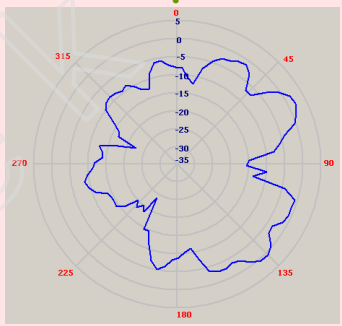
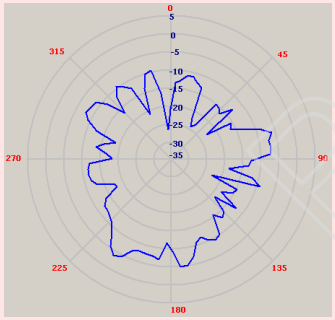
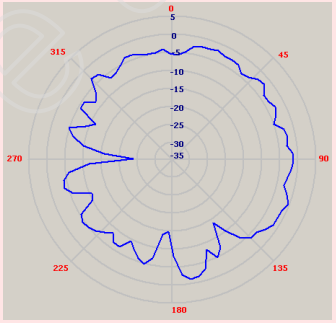
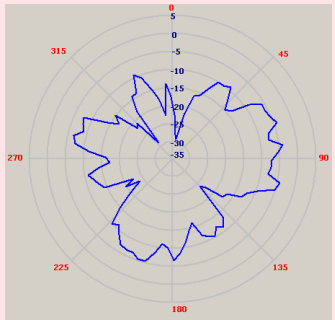
- **Radiation Patterns – 2480 MHz**

	xy-plane	yz-plane	xz-plane
horizontal			
	Pol. / Peak / avg. h / +3.7 / -3.9	Pol. / peak / avg. h / -6.2 / -12.5	Pol. / peak / avg. h / +1.8 / -5.3
vertical			
	Pol. / peak / avg. v / -4.0 / -10.8	Pol. / peak / avg. v / -0.5 / -4.5	Pol. / peak / avg. v / -4.1 / -10.2

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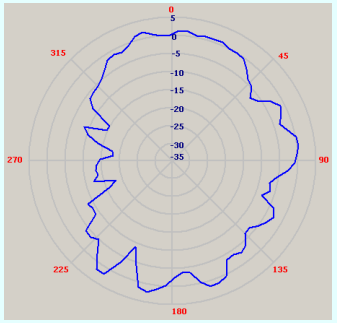
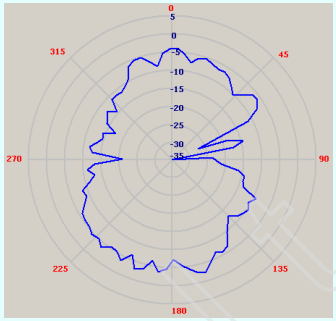
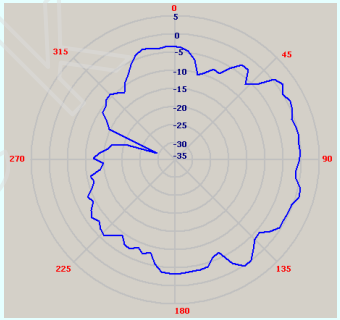
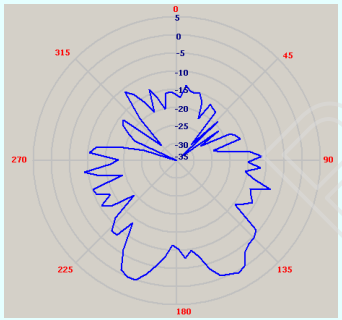
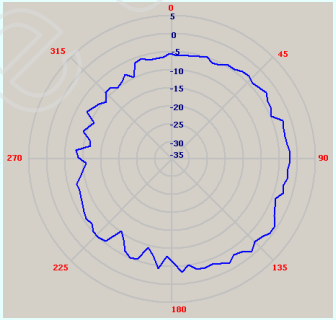
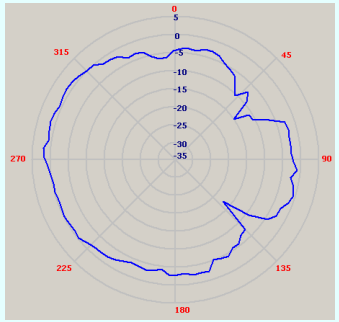
- **Radiation Patterns – 5150 MHz**

	xy-plane	yz-plane	xz-plane
horizontal			
	Pol. / Peak / avg. h / +2.1 / -2.4	Pol. / peak / avg. h / -2.6 / -7.7	Pol. / peak / avg. h / +1.3 / -4.0
vertical			
	Pol. / peak / avg. v / +0.4 / -8.5	Pol. / peak / avg. v / -0.8 / -5.0	Pol. / peak / avg. v / +1.7 / -2.4

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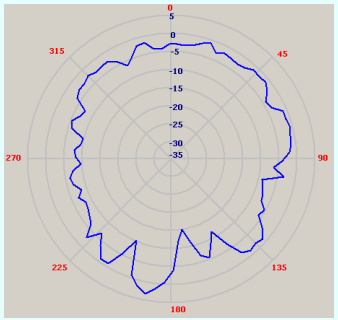
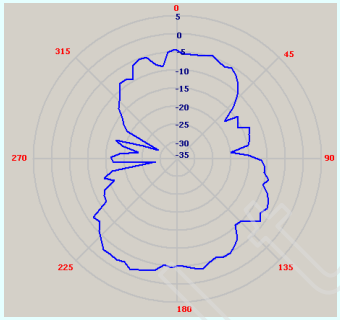
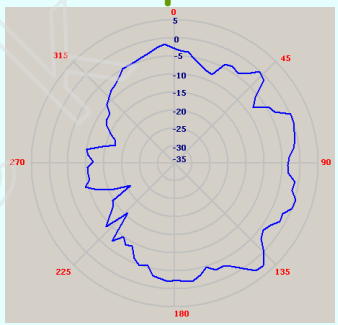
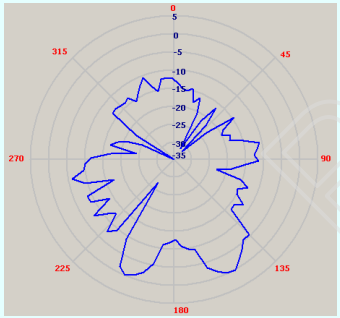
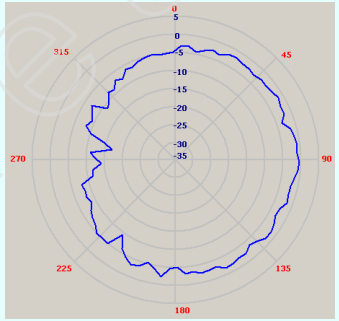
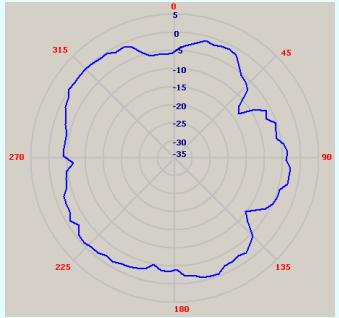
- **Radiation Patterns – 5500 MHz**

	xy-plane	yz-plane	xz-plane
horizontal			
	Pol. / Peak / avg. h / +3.1 / -3.6	Pol. / peak / avg. h / -1.6 / -7.3	Pol. / peak / avg. h / +2.6 / -4.0
vertical			
	Pol. / peak / avg. v / -0.1 / -8.9	Pol. / peak / avg. v / -0.6 / -4.1	Pol. / peak / avg. v / -0.1 / -3.1

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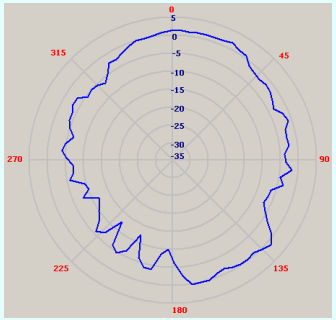
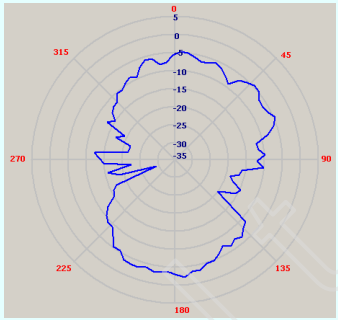
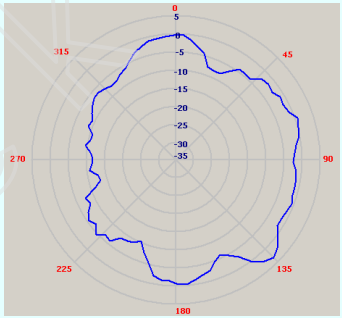
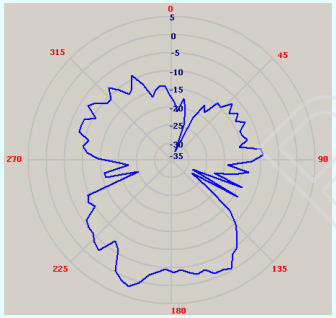
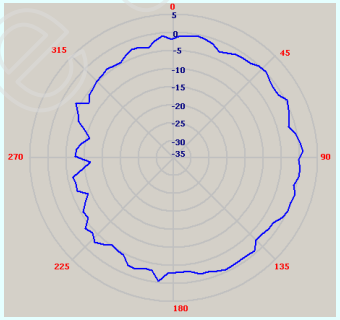
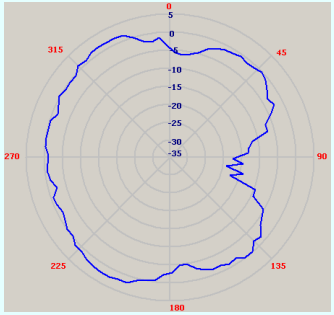
- **Radiation Patterns – 5850 MHz**

	xy-plane	yz-plane	xz-plane
horizontal			
	Pol. / Peak / avg. h / +1.5 / -2.5	Pol. / peak / avg. h / -2.3 / -7.7	Pol. / peak / avg. h / +3.1 / -3.2
vertical			
	Pol. / peak / avg. v / +2.1 / -7.2	Pol. / peak / avg. v / +0.9 / -2.5	Pol. / peak / avg. v / +2.2 / -1.5

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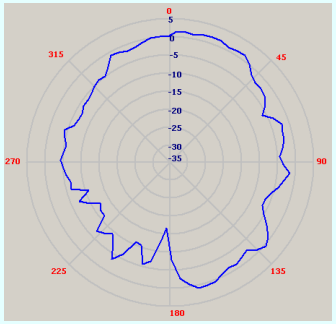
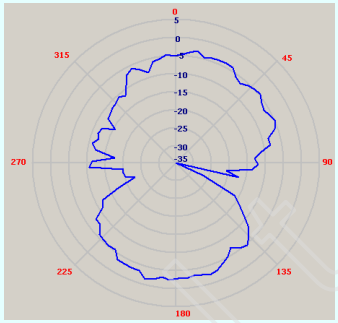
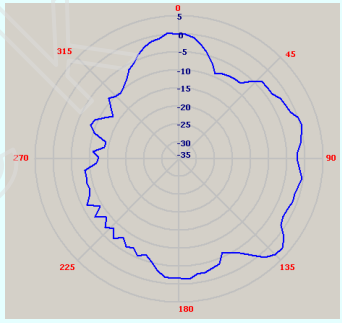
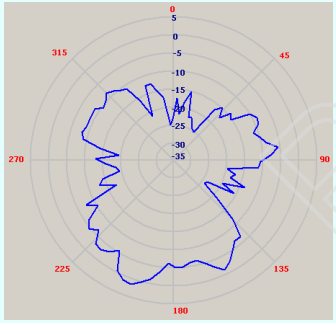
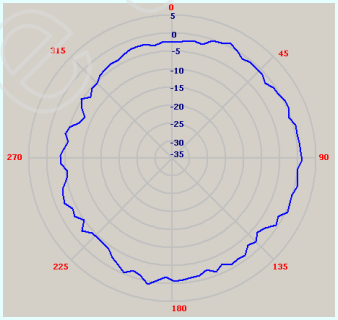
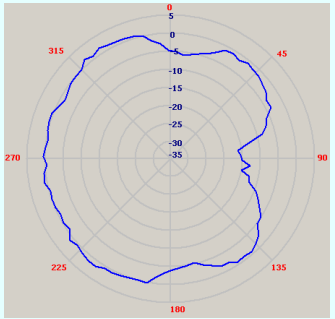
- **Radiation Patterns – 5925 MHz**

	xy-plane	yz-plane	xz-plane
horizontal			
	Pol. / Peak / avg. h / +1.5 / -2.8	Pol. / peak / avg. h / -1.6 / -6.6	Pol. / peak / avg. h / +2.9 / -3.5
vertical			
	Pol. / peak / avg. v / +1.3 / -7.6	Pol. / peak / avg. v / +1.0 / -1.9	Pol. / peak / avg. v / +1.4 / -1.7

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- **Antenna Gain Table**

Frequency (MHz)	Peak gain (dBi)
2400	+1.8
2450	+3.5
2480	+3.7

Frequency (MHz)	Peak gain (dBi)
5150	+2.1
5500	+3.1
5850	+3.1
5925	+2.9

Realtek Semiconductor (Shenzhen) Co., LTD
Zone B, 3rd Floor, Building A3, Shenzhen Digital Technology Park, Gaoxin Nanqi Road,
Nanshan District, Shenzhen City, Guangdong Province